

# CONTEXT

basicexam

Memoir Ever

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1 `\startmodule[basicexam]`

2 `\unprotect`

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# 1 模塊參數 / Module Setups / モジュール セットアップ

	Value	Value
mode=	<b>student</b>	will show point and hide answer
mode=	<b>teacher</b>	will show point and answer
mode=	<b>check</b>	will show some infos to console
layout=	<b>twoup</b>	print two virtual pages on each physical page.
layout=	<b>none</b>	donothing
footer=	<b>default</b>	show subject and page at footer
footer=	<b>none</b>	donothing

```
3 \setupmodule[mode=student,layout=default,footer=none]
```

定义关键词

```
4 \immutable\def\m!basicexam{basicexam}

5 \definesystemconstant{close}
6 \definesystemconstant{choice}
7 \definesystemconstant{answer}
8 \definesystemconstant{problem}
9 \definesystemconstant{question}
10 \definesystemconstant{material}
11 \definesystemconstant{optclose}

12 \startinterface all
13 \setinterfaceconstant {class}      {class}
14 \setinterfaceconstant {answer}     {answer}
15 \setinterfaceconstant {point}      {point}
16 \setinterfaceconstant {example}    {example}
17 \setinterfaceconstant {showanswer} {showanswer}
18 \setinterfaceconstant {showpoint}  {showpoint}
19 \setinterfaceconstant {showscript} {showscript}
20 \setinterfaceconstant {answerstyle} {answerstyle}
21 \setinterfaceconstant {answercolor} {answercolor}
22 \setinterfaceconstant {answerlabel} {answerlabel}
23 \setinterfaceconstant {pointstyle}  {pointstyle}
24 \setinterfaceconstant {pointcolor}  {pointcolor}
25 \setinterfaceconstant {pointlabel}  {pointlabel}
26 \setinterfaceconstant {autoright}   {autoright}
27 \setinterfaceconstant {inlineleft}  {inlineleft}
28 \setinterfaceconstant {inlineright} {inlineright}
29 \setinterfaceconstant {inlinechoice} {inlinechoice}
30 \setinterfaceconstant {recordanswer} {recordanswer}
31 \stopinterface

32 \startinterface english
33 \setinterfacemessage\m!basicexam{1} {There are unknown parameters in --, please check.}
34 \setinterfacemessage\m!basicexam{2} {Question --: answer is --.}
35 \setinterfacemessage\m!basicexam{200}{QuestionID --: order is --.}
36 \setinterfacemessage\m!basicexam{201}{The answer environment must be preceded by
```

```

37             a problem environment in order to get a score!}
38     \setinterfacemessage\m!basicexam{3} {You defined --, but you don't assign a value to it.
39     Please check.}
40     \setinterfacemessage\m!basicexam{9} {-- is not installed, some -- will not display
41     properly.}
42     \stopinterface

43     \newif\iflay_twoup \lay_twoupfalse
44     \newif\ifhdr_default \hdr_defaultfalse

45     \processallactionsinset[\currentmoduleparameter{mode}][
46         teacher=>\enablemode[teacher]},
47         student=>\enablemode[student]},
48         check=>\enablemode[check]},
49         \v!default=>\enablemode[student]},
50         \v!unknown=>\showmessage\m!basicexam{1}{mode},
51     ]

52     \processallactionsinset[\currentmoduleparameter{layout}][
53         twoup=>\lay_twouptrue,
54         none=>\relax,
55         \v!default=>\relax,
56         \v!unknown=>\showmessage\m!basicexam{1}{layout},
57     ]

58     \processallactionsinset[\currentmoduleparameter{footer}][
59         none=>\relax},
60         \v!default=>\hdr_defaulttrue,
61         \v!unknown=>\showmessage\m!basicexam{1}{footer},
62     ]

```

## 2 尚未處理的組合 / Command under handling / 未完成のコマンド

設置頁面 2UP Printing

```
\setuppapersize[user pagesize][real pagesize,real orientation]
\setuparranging[page arrange method]
more info : https://wiki.contextgarden.net/Command/setuparranging
           https://wiki.contextgarden.net/Imposition
```

例如：

```
\setuppapersize[A4][A3,landscape]
\setuparranging[2SIDE]%[2UP]
\setuppagenumbering[alternative=singlesided]%{doublesided}]
```

```
63 \iflay_twoup
64   \setuppapersize[A4][A3,landscape]
65   \setuparranging[2SIDE]% 2SIDE start page at odd [2UP] start at even
66   \setuppagenumbering[alternative={doublesided}]%singlesided]
67 \fi
```





### 3 定义其后环境所需命令

```

68 \newwrite\examanswer

69 \newif\ifonearguments
70 \newif\iftwoarguments
71 \newif\ifthreearguments
72 \newif\ifmode_debug      \newif\ifenv_question  \newif\ifenv_toplevel
73 \newif\ifmode_check      \newif\ifenv_problem   \newif\ifenv_botlevel
74 \newif\ifmode_showanswer \newif\ifenv_choice    \newif\ifenv_answer
75 \newif\ifmode_showpoint  \newif\ifenv_material  \newif\ifitem_pitem
76 \newif\ifmode_showscript \newif\ifenv_close     \newif\ifitem_fillin
77 \newif\ifmode_example    \newif\ifenv_writing   \newif\ifitem_inlinechoice
78 \newif\ifcontinue_counter \newif\ifenv_subwriting
79 \newif\ifclose_counter_reset

80 \newdimen\d_width_cit
81 \newdimen\d_width_cit_max
82 \newdimen\d_compared_maxwidth
83 \newdimen\d_maxwidth_with_label

84 \newdimen\c_steppoint
85 \newcount\c_stepscore
86 \newcount\c_closetest
87 \newdimen\c_steppoint_temp
88 \newcount\c_stepscore_temp
89 \newcount\c_closetest_temp
90 \newcount\c_totalitemnumber
91 \newcount\c_currentitemnumber
92 \newcount\c_totalchoicenumner
93 \newcount\c_availablecolumns
94 \newcount\c_envnumber
95 \newcount\c_fillinnumber
96 \newcount\c_exemplenumber
97 \newdimen\c_bottotalpoint
98 \newcount\parentitemnumber% \parentitemnumber 会等于父级列表环境的序号

99 \definecounter[Unicode][way=bychapter,start=1]
100 \definecounter[Unicode_toplevel]      % for level 1 : question or problem
101 \definecounter[Unicode_midlevel]      % for level 2 : problem or level 1
102 \definecounter[Unicode_botlevel]      % for level 3 : only for level 2
103 \definecounter[strc_close_counter]    % 为 close 环境可以继续 question 序号而设置

104 \def\inititemnumber {\global \c_currentitemnumber = 0\relax
105 \global \c_totalitemnumber = 0\relax}
106 \def\incrementitemnumber{\global\advance\c_currentitemnumber by 1\relax}
107 \def\recursedititemnumber%%遞歸出總序號
108 {\ifnum \c_totalitemnumber > \c_currentitemnumber
109 \global \c_totalitemnumber = \c_totalitemnumber
110 \else \global \c_totalitemnumber = \numexpr\c_currentitemnumber\relax\fi
111 \ifenv_toplevel\ifnum
112 \c_totalitemnumber = 0 \c_totalitemnumber\plusone\relax\fi

```

```

113 \else \ifenv_botlevel
114 \xdef\item_bottotalitemnumber_temp{\the\c_totalitemnumber}\else
115 \global \c_totalitemnumber = \rawcountervalue[Unicode_midlevel]\fi\fi}

116 \def\save_question_order{\setcounter[strc_close_counter][\currentitemnumber]\savecounter[
117 strc_close_counter]}
118 \def\restore_question_order{\restorecounter[strc_close_counter]}

119 \def\EQuestionID{E-\somenamedheadnumber{chapter}{current}-\number\c_exemplenumber}
120 \def\increaseEQuestionID{\advance\c_exemplenumber by 1\relax}
121 \def\decreaseEQuestionID{\advance\c_exemplenumber by -1\relax}

122 \def\QuestionID{\ifmode_example\EQuestionID\else\somenamedheadnumber{chapter}{current}-
123 \rawcountervalue[Unicode]\fi}
124 \def\increaseQuestionID{\ifmode_example\increaseEQuestionID\else\incrementcounter[Unicode]
125 \fi}
126 \def\decreaseQuestionID{\ifmode_example\decreaseEQuestionID\else\decrementcounter[Unicode]
127 \fi}

128 \def\NextQuestionID{\ifmode_example\EQuestionID\else\somenamedheadnumber{chapter}{current}
129 -\nextcountervalue[Unicode]\fi}
130 \def\PrevQuestionID{\ifmode_example\EQuestionID\else\somenamedheadnumber{chapter}{current}
131 -\Prevcountervalue[Unicode]\fi}

132 \def\HelperID{\namedheadnumber{chapter}-\rawcountervalue[Unicode_toplevel]\ifenv_botlevel
133 -\rawcountervalue[Unicode_midlevel]\else\fi}
134 \def\topHelperID{\namedheadnumber{chapter}-\rawcountervalue[Unicode_toplevel]}
135 \def\midHelperID{\namedheadnumber{chapter}-\rawcountervalue[Unicode_toplevel]-
136 \rawcountervalue[Unicode_midlevel]}

137 \definebar [FillinText]
138 \definemarking [title]
139 \definemarking [subject]
140 \defineitemgroup [env:question]
141 \defineitemgroup [env:problem]
142 \defineitemgroup [env:example]
143 \defineitemgroup [env:choice]
144 \definedataset [ExamDataset]
145 \definedataset [ExamDatasetHelper]
146 \definertextbackground[env:answer]

147 \def\exam_write_answer{%
148 \immediate\openout\examanswer=\jobname -answer.txt\relax
149 \immediate\write\examanswer{
150 \QuestionID \space\string @
151 \currentenvironment \space\string @
152 \currentuserorder \space\string @
153 \expand\currentanswer \space\string @
154 \currentorder \space\string @
155 \datasetvariable{ExamDataset}{\QuestionID}{totalnumber}%
156 \space\string @
157 \currentpoint \space\string @}% \closeout\examanswer
158 }

```

```

159 \ifmode_check
160 \immediate\openout\examanswer=\jobname -answer.txt\relax
161 \immediate\write\examanswer{
162   \string questionid \space\string @
163   \string environment \space\string @
164   \string userorder \space\string @
165   \string answer \space\string @
166   \string currentorder \space\string @
167   \string totalitemnumber \space\string @
168   \string currentpoint \space\string @%
169 }
170 \fi

171 \startuseMPgraphic{rules:under:wave}
172 \vardef lsin primary x =
173   lua("mp.print(math.sin(" & decimal x & ")")")
174 \enddef ;
175 \draw function(1, "x", "lsin(1.2*x)", 0, RuleWidth, .1pt)
176   shifted (0,RuleFactor*RuleOffset+RuleDepth)
177   withpen pencircle scaled RuleThickness
178   withcolor RuleColor ;
179 \setbounds currentpicture to unitsquare xysized(RuleWidth,RuleHeight) ;
180 \stopuseMPgraphic

181 \definelabelclass [exam] [0]
182 \setuplabeltext [cn] [section={第,部分},subsection={第,节}]
183 \setupexamtext [cn] [point={分}, answer={答 案:}, page={第,页}, totalpage={共,页},
184   writing={参见参考作文}]
185 \setupexamtext [hans] [point={分}, answer={答 案:}, page={第,页}, totalpage={共,页},
186   writing={参见参考作文}]% work with memos module
187 \setupexamtext [hant] [point={分}, answer={答 案:}, page={第,頁}, totalpage={共,頁},
188   writing={参见参考作文}]% work with memos module
189 \setupexamtext [en] [point={pts},answer={answer:},page={pages}, totalpage={total,pages},
190   writing={see example}]
191 \setupexamtext [ja] [point={点}, answer={答え:}, page={第,ページ},totalpage={共,ページ},
192   writing={see example}]

193 \definehead [tu] [chapter]
194 \definehead [ego] [section] % me latin
195 \definehead [isea] [subsection] % he or she latin
196 \definehead [heu] [subsubsection] % och
197 \setuphead [tu] [placehead=empty]
198 \setuphead [ego] [sectionsegments=section,style=\ssa]
199 \setupheads [isea] [style=\hwa]
200 \setupheads [tu,ego,isea]
201   [indentnext=yes,align=flushleft,
202   before={\blank[quarterline]},
203   after={\blank[quarterline]},
204   sectionconversionset=examnum]
205 \definelist[tu]
206 \setuplist [tu][style={\feature+}[tabularnumbers]]
207 \definestructureconversionset[examnum][chinesenumerals][chinesenumerals]

```

```

208 \ifhdr_default
209 \definedelimitedtext [paren] [location=text]
210 \setupdelimitedtext [paren:1] [left={(\nobreak}, right={\nobreak) }]
211 \setupdelimitedtext [paren:2] [left={\,,[~}, right={~}\,}]
212 \setupdelimitedtext [paren:3] [left={\,,\{~}, right={~\}\,}]
213 \setupmarking[subject][expansion=yes]
214 \setupfooter [state=start]
215 \startsetups hdr:infos
216 \framed[height=max,align=lohi,frame=off]{%
217   \getmarking[subject][page][current]
218   \paren{\examtexts{page}{\pagenumber},\ %
219     \examtexts{totalpage}{\lastpagenumber}}%
220 }
221 \stopsetups
222 \setupfootertexts[\setups{hdr:infos}]
223 \fi

224 \def\choice_answerstatus {\datasetvariable{Choice_collector}{\QuestionID}{answerstatus}
225 }
226 \def\point_totalpoint {\datasetvariable{ExamDataset}{\currentQuestionID}{totalpoint}}
227 \def\point_botttotalpoint {\datasetvariable{ExamDataset}{\currentQuestionID}{
228   botttotalpoint}}
229 \def\item_totalitemnumber {\datasetvariable{ExamDataset}{\currentQuestionID}{
230   totalitemnumber}}
231 \def\item_botttotalitemnumber {\datasetvariable{ExamDataset}{\currentQuestionID}{
232   botttotalitemnumber}}
233 \def\point_point {\datasetvariable{ExamDataset}{\currentQuestionID}{point}}
234 \def\answer_answer {\datasetvariable{ExamDataset}{\currentQuestionID}{answer}}
235 \def\currentavailablecolumns {}
236 \def\currentrealavailablecolumns{}
237 \def\currentitemmaxwidth {}
238 \def\currentanswerstatus {}
239 \def\example_mode{\ifmode_example NOTICE: MODE EXAMPLE IS ON !\fi}
240 \def\currentlevel{\ifenv_toplevel <env_toplevel>\else
241   \ifenv_botlevel <env_botlevel>\else
242     <env_midlevel>\fi\fi}

243 \def\mode_status{\ifmode_check <M:C>\fi
244   \ifmode_showanswer <M:A>\fi
245   \ifmode_showpoint <M:P>\fi
246   \ifmode_example <M:E>\fi}

247 \startluacode
248 local report = logs.reporter("question info")

249 local function center_text(text, total_width)
250   local text_length = #text
251   local left_padding = math.floor((total_width - text_length) / 2)
252   local right_padding = total_width - left_padding - text_length
253   return string.rep(' ', left_padding) .. text .. string.rep(' ', right_padding)
254 end

```

```

255 local function center_report(centerinfos)
256     for _, row in ipairs(centerinfos) do
257         local centered_line = center_text(row, 70)
258         report(centered_line)
259     end
260 end

261 local lines = {
262     "NOTICE: MODE CHECK IS ON !",
263     -- "Notice,Cinfos only show choice env information",
264     -- "CU means 'current' , if CUuserorder ≠ CUorder,",
265     -- "It maybe because START parameter is enabled. ",
266     "Notice: MODE EXAMPLE wont provide data infos "
267 }

268 function formatted_report(data)
269     -- 定义格式化字符串, 加入竖线作为分隔符
270     local format_str = "%15s %-20s %15s %-20s"
271     center_report(lines,70)
272     -- 输出数据
273     for _, row in ipairs(data) do
274         report(format_str:format(row[1], row[2], row[3], row[4]))
275     end
276 end
277 \stopluacode

278 \def\check_info{
279     {"", "\example_mode", "", ""},
280     {"Name", "Content", "", ""},
281     {"Name", "Content", "", ""},
282     {"CUlevel", "\currentlevel", "", ""},
283     {"CUenvironment", "\currentenvironment", "", ""},
284     {"CUitemgroup", "\datasetvariable{ExamDataset}{\QuestionID}{envid}", "", ""},
285     {"CUparen", "\currentparentitemgroup", "", ""},
286     {"QuestionID", "\QuestionID", "", ""},
287     {"HelperID", "\HelperID", "", ""},
288     {"order", "\currentorder", "", ""},
289     {"userorder", "\currentuserorder", "", ""},
290     {"point", "\datasetvariable{ExamDataset}{\QuestionID}{point}", "", ""},
291     {"", "", "", ""},
292     {"totalnumber", "\datasetvariable{ExamDataset}{\QuestionID}{totalnumber}", "", ""},
293     {"Htotalnumber", "\datasetvariable{ExamDatasetHelper}{\HelperID}{totalitemnumber}", "", ""},
294     {"totalpoint", "\datasetvariable{ExamDataset}{\QuestionID}{totalpoint}", "", ""},
295     {"Htotalpoint", "\datasetvariable{ExamDatasetHelper}{\HelperID}{totalpoint}", "", ""},
296     {"CUCmaxwidth", "\datasetvariable{ExamDatasetHelper}{\HelperID}{itemmaxwidth}", "", ""},
297     {"Cavailable", "\datasetvariable{ExamDatasetHelper}{\HelperID}{availablecolumns}&\%
298         \datasetvariable{ExamDatasetHelper}{\HelperID}{realavailablecolumns}", "", ""},
299     % {"answer", "\datasetvariable{ExamDataset}{\QuestionID}{answer}", "", ""},
300     % {"", "", "", ""},
301     % {"Hanswer", "\datasetvariable{ExamDatasetHelper}{\HelperID}{answer}", "", ""},
302     % {"", "", "", ""},
303     {"mode.check", "\mode_status", "", ""},

```

```

304     "Canswerstatus", "\choice_answerstatus" },
305 }

306 \def\show_check_info#1%
307 {\begingroup
308   \ifmode_check%
309     \ifdefined\currentorder%
310       \let\old_currentorder\currentorder
311       \let\old_currentorder\currentuserorder
312     \else%
313       \def\currentorder{\tt currentorder didn't define}%
314       \def\currentuserorder{\tt currentorder didn't define}%
315     \fi%
316     \writestatus{question info}{-----}
317     ----}%
318     \directlua{formatted_report({#1})}%
319     \writestatus{question info}{\space\space\space\space\space\space\space answer
320       \space\space\space\datasetvariable{ExamDataset} \QuestionID{answer}}%
321     \writestatus{question info}{\space\space\space\space\space\space\space Hanswer
322       \space\space\space\datasetvariable{ExamDatasetHelper}{HelperID}{answer}}%
323     \writestatus{question info}{-----}
324     ----}%
325   \fi
326 \endgroup}

327 \def\initcollectanswer{\directlua{MultiAnswerCollector = {}}}
328 \def\collectanswer#1{\directlua{table.insert(MultiAnswerCollector, [[#1]])}}
329 \def\collectedanswer{\directlua{tex.sprint(table.concat(MultiAnswerCollector, ","))}}
330 \initcollectanswer

331 \def\set_envitem_counter{%
332   \initcollectanswer% 初始化多项答案收集器
333   \ifdefined\currentenvnumber
334     \edef\prevenvnumber{\currentenvnumber}\fi
335   \ifenv_answer \advance\c_envnumber by 10\relax\else
336     \global\c_envnumber=0\relax%
337   \ifenv_question \global\c_envnumber=1\relax \edef\currentenvironment {question}\fi
338   \ifenv_problem \global\c_envnumber=2\relax \edef\currentenvironment {problem}\fi
339   \ifenv_choice \global\c_envnumber=3\relax \edef\currentenvironment {choice}\fi
340   \ifenv_material \global\c_envnumber=4\relax \edef\currentenvironment {material}\fi
341   \ifenv_close \global\c_envnumber=5\relax \edef\currentenvironment {close}\fi
342   \ifenv_writing \global\c_envnumber=6\relax \edef\currentenvironment {writing}\fi
343   \ifenv_subwriting \global\c_envnumber=7\relax \edef\currentenvironment{subwriting}\fi
344   \fi
345   \doif{ \csname \currentenvironment parameter\endcsname\c!example}{true}% 测试是否开启
346   example mode
347   {\mode_examtrue\global\c_envnumber=999\relax}%
348   \edef\currentenvnumber{\the\c_envnumber}}

349 \def\current_user_order#1% get user order which can be changed by START
350 {\number \csname #1order\endcsname% 獲得的結果類似於 2(4)
351   \ifenv_toplevel\else

```

```

352 (\ifnum \rawcountervalue[Unicode_midlevel]=0\else
353 \rawcountervalue[Unicode_midlevel]\fi
354 \ifnum\rawcountervalue[Unicode_botlevel]=0\else
355 \ifnum\rawcountervalue[Unicode_midlevel]>0 -\fi
356 \rawcountervalue[Unicode_botlevel]\fi
357 )\fi}

358 \def\set_currentuserorder[#1]{% set order that user setted
359 \ifcsname #1order\endcsname\else
360 \expandafter\newcount\csname #1order\endcsname\fi
361 \ifenv_toplevel\csname #1order\endcsname=\currentitemnumber
362 \else\csname #1order\endcsname=\parentitemnumber \fi
363 \edef\currentid{\QuestionID}%
364 \edef\currentorder{% get unique order ( no chapter number )
365 \somenamedheadnumber{chapter}{current}}-%
366 \rawcountervalue[Unicode_toplevel]-%
367 \rawcountervalue[Unicode_midlevel]-%
368 \rawcountervalue[Unicode_botlevel]}%
369 \xdef\currentuserorder{\current_user_order{#1}}%获取上面定义的 #1order
370 \expandafter\show_check_info{\check_info}%
371 }%专为子级设计来获取父级序号，否则直接获取当前序号

372 \tolerant\def\set_count_envlevel[#1]{% #1 定义 #2order
373 \env_topleveltrue
374 \ifdefined\prevenvnumber
375 \env_toplevelfalse
376 \doifelse{\prevlevel}%
377 {\<env_midlevel>}%
378 {\env_botleveltrue \incrementitemnumber }%
379 {\env_botlevelfalse\incrementitemnumber\inititemnumber}%
380 \else \env_topleveltrue \inititemnumber\fi
381 \edef\prevlevel{\currentlevel}%
382 \xdef\currentQuestionID{\ifmode_example\EQuestionID\else
383 \somenamedheadnumber{chapter}{current}-\rawcountervalue[Unicode]\fi}%
384 \ifenv_toplevel
385 \setcounter[Unicode_midlevel][0]%
386 \setcounter[Unicode_botlevel][0]%
387 \incrementcounter[Unicode_toplevel]%
388 \c_steppoint \zeropoint
389 \c_steppoint_temp\zeropoint% 重置分数计算
390 \c_bottotalpoint \zeropoint
391 \parentitemnumber\currentitemnumber
392 \edef\item_bottotalitemnumber_temp{0}%
393 \else\ifenv_botlevel
394 \incrementcounter[Unicode_botlevel]%
395 \else
396 \edef\item_bottotalitemnumber_temp{0}%
397 \setcounter[Unicode_botlevel][0]%
398 \incrementcounter[Unicode_midlevel]\fi
399 \fi%{\tt\red :: \currentlevel :: \currentorder}
400 \set_currentuserorder[#1]}% 创建 #2order 以备使用

```



```

401 \protected\def\installdatacollector%
402 {%\showmessage\m!basicexam{2}{\currentuserorder,\currentanswer}%顯示題號和答案到控制檯
403 %\showmessage\m!basicexam{200}{\QuestionID,\currentorder}%
404 \ifmode_check\exam_write_answer\fi
405 \setdataset [ExamDataset][\QuestionID]%收集答案並在未來展開
406 [ id={\QuestionID},%
407   envid={\currentitemgroup:\the\c_envnumber},%
408   order={\number\currentorder},%
409   userorder={\currentuserorder},%
410   answer={\expand\currentanswer},%
411   point={\currentpoint},%
412   subitem={\the\c_subitem_state}
413   totalnumber={\datasetvariable{ExamDatasetHelper}{\HelperID}{totalitemnumber}},
414   bottotalitemnumber={\datasetvariable{ExamDatasetHelper}{\HelperID}{
415     bottotalitemnumber}},
416   totalpoint={\datasetvariable {ExamDatasetHelper}{\HelperID}{totalpoint}},
417   bottotalpoint={\datasetvariable{ExamDatasetHelper}{\HelperID}{bottotalpoint}},]

418 \protected\def\installdatacollectorhelper{%
419 \increaseQuestionID% 具有獨立答案, 增長 QID
420 \recurseditemnumber
421 \ifdefined\currenttotalbotpoint\else\edef\currenttotalbotpoint{\currenttotalpoint}\fi
422 \setdataset[ExamDatasetHelper][\HelperID]%收集信息並在未來展開
423   totalitemnumber={\the\c_totalitemnumber},
424   bottotalitemnumber={\item_bottotalitemnumber_temp},
425   availablecolumns={\currentavailablecolumns},
426   realavailablecolumns={\currentrealavailablecolumns},
427   itemmaxwidth={\currentitemmaxwidth},
428   totalpoint={\currenttotalpoint},
429   bottotalpoint={\currenttotalbotpoint},
430   answer={\expand\currentanswer},
431   answerstatus={\check_answerstatus},]%
432 \initcollectanswer}

433 \def\check_answerstatus{\ifempty\currentanswer there is no answer setted.\else setted
434   answer.\fi}

435 \def\paren#1{(#1)}

436 \startluacode
437 function FormatDim (dim)
438   local converteddimen = tex.toscaled(dim) / 65536
439   local convertednumber = tonumber(string.format("%.2f",converteddimen))
440   return convertednumber
441 end

442 function FormatNum (num)
443   if num <= 0 then
444     return 0
445   else
446     local t1, t2 = math.modf(num)
447     if t2 > 0 then

```



```

448         return num
449     else
450         return t1
451     end
452 end
453 end

454 -- context(FormatDim(tex.dimen.c_steppoint))
455 -- context.par()
456 -- context(FormatNum(convertednumber))
457 -- context.par()
458 -- context(FormatNum(FormatDim(tex.dimen.c_steppoint)))
459 \stopluacode

460 \newcount\c_subitem_state\c_subitem_state=0

461 \def\install_point[#1][#2]{%
462   \edef\currentmode{#2}%
463   \edef\currentpoint{\csname #1parameter\endcsname\c!point}%
464   \edef\prevpoint{\currentprevpoint}%
465   \ifx\currentmode\c!point
466     \ifempty\currentpoint
467       \edef\currentpoint{\ifenv_toplevel 0\else\ifempty\prevpoint 0\else\prevpoint\fi\fi}%
468     \else
469       \edef\currentpoint{\csname #1parameter\endcsname\c!point}%
470     \fi
471     \ifenv_toplevel
472       \ifempty\currentpoint
473         \edef\currenttoppoint{0}\else
474         \ifdefined\steptotalmidpoint
475           \edef\currenttoppoint{\steptotalmidpoint}%
476           \edef\currentpoint{\steptotalmidpoint}%
477         \global\c_subitem_state2\relax\else
478         \edef\currenttoppoint{\currentpoint}\fi\fi
479         \ifempty\currentpoint% 抓取當前分數值
480           \scratchdimen\zeropoint \else
481           \scratchdimen\currentpoint pt\relax
482         \fi
483         \global\c_steppoint_temp\scratchdimen\relax
484         \global\c_steppoint=\dimexpr\c_steppoint+\c_steppoint_temp\relax
485         \xdef\currenttotaltoppoint{\ctxlua{context(FormatNum(FormatDim(tex.dimen.c_steppoint))
486         )}}}%
487         \ifnum\rawcountervalue[Unicode_midlevel]=0
488           \xdef\currenttotalpoint{\csname #1parameter\endcsname\c!point}\else
489           \xdef\currenttotalpoint{\currenttotaltoppoint}%
490         \fi
491         % {\ttx\red \currentlevel : \currenttotalpoint }
492       \else
493         \ifenv_botlevel
494           \global\c_subitem_state3\relax
495           \ifempty\currentpoint
496             \edef\currentbotpoint{0}\else

```

```

497 \edef\currentbotpoint{\currentpoint}\fi
498 \ifempty\currentpoint% 抓取當前分數值
499 \scratchdimen\zeropoint \else
500 \scratchdimen\currentpoint pt\relax
501 \fi
502 \global\c_steppoint_temp\scratchdimen\relax
503 \global\c_steppoint =\dimexpr\c_steppoint +\c_steppoint_temp\relax
504 \global\c_bottotalpoint=\dimexpr\c_bottotalpoint+\c_steppoint_temp\relax
505 \xdef\steptotalbotpoint {\ctxlua{context(FormatNum(FormatDim(tex.dimen.c_steppoint))
506 )}}%
507 \xdef\currenttotalbotpoint{\ctxlua{context(FormatNum(FormatDim(tex.dimen.c_
508 bottotalpoint)))}}%
509 \xdef\currenttotalpoint {\steptotalbotpoint}%
510 % {\ttx\red \currentlevel : \currenttotalpoint }
511 \else
512 \ifempty\currentpoint
513 \edef\currentmidpoint{0}\else
514 \ifdefined\currenttotalbotpoint
515 \edef\currentmidpoint{\currenttotalbotpoint}%
516 \ifnum\c_subitem_state=3\edef\currentpoint{0}\fi
517 \global\c_subitem_state2\relax
518 \else
519 \edef\currentmidpoint{\currentpoint}\fi\fi
520 \ifempty\currentpoint% 抓取當前分數值
521 \scratchdimen\zeropoint \else
522 \scratchdimen\currentpoint pt\relax
523 \fi
524 \c_bottotalpoint\zeropoint% 重置 midlevel 分數
525 \global\c_steppoint_temp\scratchdimen\relax
526 \global\c_steppoint=\dimexpr\c_steppoint+\c_steppoint_temp\relax
527 \global\c_bottotalpoint=\dimexpr\c_bottotalpoint+\c_steppoint_temp\relax
528 \xdef\steptotalmidpoint {\ctxlua{context(FormatNum(FormatDim(tex.dimen.c_steppoint))
529 )}}%
530 \xdef\currenttotalpoint {\steptotalmidpoint}%
531 \ifdefined\currenttotalbotpoint\xdef\currenttotalmidpoint{\currenttotalbotpoint}\fi
532 % {\ttx\red \currentlevel : \currenttotalpoint }
533 \fi
534 \fi
535 \fi}

536 \def\install_answer[#1][#2]{%
537 \edef\currentmode{#2}%
538 \ifx\currentmode\c!answer
539 \edef\prevanswer{\currentprevanswer}%
540 \edef\p_answer{\csname #1parameter\endcsname\c!answer}%暫時定義
541 \ifmode_debug{\ttx\blue{\ss INSTALL ANSWER} 1 : \currentanswer : \prevanswer}\fi
542 \ifempty\p_answer
543 \edef\currentanswer{\prevanswer}%empty : \currentanswer
544 \ifmode_debug{\ttx\blue 2 : \currentanswer : \prevanswer}\fi
545 \else%
546 \ifempty\prevanswer

```

```

547 \edef\currentanswer{\csname #1parameter\endcsname\c!answer}%not empty : \currentanswer
548 \ifmode_debug{\ttx\blue 3 : \currentanswer : \prevanswer}\fi
549 \else
550 \edef\currentanswer{\prevanswer}%
551 \ifmode_debug{\ttx\blue 4 : \currentanswer : \prevanswer}\fi
552 \fi
553 \ifempty\prevanswer\else
554 \ifx\currentanswer\prevanswer\relax\else
555 \writestatus{question info}{%
556 \currentuserorder : Two conflicting answers have been detected,
557 check and delete unnecessary answers.}%
558 \writestatus{question info}{%
559 \string\prevanswer : \prevanswer .
560 \string\currentanswer : \currentanswer .}%
561 \fi
562 \fi
563 \fi
564 \fi
565 }

566 \installnamespace {examinfo}
567 \installframedcommandhandler \???examinfo {examinfo} \???examinfo

568 \appendtoks
569 \frozen\instance\protected\edefcsname\!start\currentexaminfo\endcsname{
570 \framed_examinfo_start[\currentexaminfo]}%
571 \frozen\instance\protected\edefcsname\!stop \currentexaminfo\endcsname{
572 \framed_examinfo_stop }%
573 \to \everydefineexaminfo

574 \unexpanded\def\framed_examinfo_start[#1]%
575 {\bgroup\edef\currentexaminfo{#1}%
576 % \dontleavehmode\inheritedexaminfoframed
577 \bgroup\examinfoparameter\c!left}

578 \unexpanded\def\framed_examinfo_stop%
579 {\examinfoparameter\c!right\egroup\egroup}

580 \setupexaminfo[frame=off,location=low,left=(,right=),offset=0pt,align=flushleft]

581 \defineexaminfo[answerexaminfo]
582 \defineexaminfo[writingexaminfo]
583 \defineexaminfo[questionexaminfo]
584 \defineexaminfo[examitemexaminfo]
585 \defineexaminfo[closeexaminfo] [width=2em]

586 \def\exam_showpointinfo{{\red \topHelperID :: \midHelperID :: \HelperID ::
587 \currentQuestionID \
588 \hbox{:aETH: \datasetvariable{ExamDataset} {\topHelperID}{totalpoint} }
589 \hbox{:bEMH: \datasetvariable{ExamDataset} {\midHelperID}{totalpoint} }
590 \hbox{:cE H: \datasetvariable{ExamDataset} {\HelperID} {totalpoint} } \penalty0
591 \blue
592 \hbox{:dETH: \datasetvariable{ExamDataset} {\topHelperID}{botttotalpoint} }

```

```

593 \hbox{:eEMH: \datasetvariable{ExamDataset} {\midHelperID}{bottotalpoint} }
594 \hbox{:fE H: \datasetvariable{ExamDataset} {\HelperID} {bottotalpoint} }\penalty0
595 \red
596 \hbox{:gHTH: \datasetvariable{ExamDatasetHelper}{\topHelperID}{totalpoint} }
597 \hbox{:hHMH: \datasetvariable{ExamDatasetHelper}{\midHelperID}{totalpoint} }
598 \hbox{:iH H: \datasetvariable{ExamDatasetHelper}{\HelperID} {totalpoint} }\penalty0
599 \blue
600 \hbox{:jHTH: \datasetvariable{ExamDatasetHelper}{\topHelperID}{bottotalpoint} }
601 \hbox{:kHMH: \datasetvariable{ExamDatasetHelper}{\midHelperID}{bottotalpoint} }
602 \hbox{:lH H: \datasetvariable{ExamDatasetHelper}{\HelperID} {bottotalpoint} }\penalty0
603 \red
604 \hbox{:mEQ: \datasetvariable{ExamDataset} {\currentQuestionID}{point} }
605 \hbox{:nEQ: \datasetvariable{ExamDataset} {\currentQuestionID}{totalpoint} }
606 \hbox{:oEQ: \datasetvariable{ExamDataset} {\currentQuestionID}{bottotalpoint}}
607 }}

608 \def\exam_showanswerinfo{{\red
609 % \hbox{:aETH: \datasetvariable{ExamDataset} {\topHelperID} {answer}}
610 % \hbox{:bEMH: \datasetvariable{ExamDataset} {\midHelperID} {answer}}
611 % \hbox{:cE H: \datasetvariable{ExamDataset} {\HelperID} {answer}}\penalty0\blue
612 \hbox{:dETH: \datasetvariable{ExamDatasetHelper}{\topHelperID} {answer}}
613 \hbox{:eEMH: \datasetvariable{ExamDatasetHelper}{\midHelperID} {answer}}
614 \hbox{:fE H: \datasetvariable{ExamDatasetHelper}{\HelperID} {answer}}\penalty0\red
615 \hbox{:gHTH: \datasetvariable{ExamDataset} {\currentQuestionID}{answer}}
616 \hbox{:hHMH: \datasetvariable{ExamDatasetHelper}{\currentQuestionID}{answer}}
617 }}

618 \tolerant\protected\def\showpointoranswer[#1]#*[#2]%
619 {\edef\currentmode{#2}% check point or answer
620 \edef\p_showanswer {\csname #1parameter\endcsname\c!showanswer}%
621 \edef\p_showpoint {\csname #1parameter\endcsname\c!showpoint }%
622 \edef\p_showscript {\csname #1parameter\endcsname\c!showscript}%
623 \edef\p_totalpoint {\csname #1parameter\endcsname {totalpoint}}%
624 \edef\p_totalanswer{\csname #1parameter\endcsname{totalanswer}}%
625 \ifempty\p_showanswer\else
626 \ifx\p_showanswer\s!true
627 \mode_showanswertrue
628 \else \mode_showanswerfalse
629 \fi\fi
630 \ifempty\p_showpoint\else
631 \ifx\p_showpoint\s!true
632 \mode_showpointtrue
633 \else \mode_showpointfalse
634 \fi\fi
635 \ifempty\p_showscript\else
636 \ifx\p_showscript\s!true
637 \mode_showscripttrue
638 \else \mode_showscriptfalse
639 \fi\fi
640 \beginingroup
641 \p_assigned_currentlabel{#1}{#2}%

```

```

642 \expandafter\expandafter
643 \expandafter\p_pass_currentlabel
644 \expandafter\expandafter
645 \expandafter[\csname p_current#1#2label\endcsname]{#2}%
646 \def\left_assignedlabel {\csname left_assigned#2label\endcsname}%
647 \def\right_assignedlabel{\csname right_assigned#2label\endcsname}%
648 \ifx\currentmode\c!point \ifmode_debug {\ss PointINFO : }\exam_showpointinfo \\fi\fi
649 \ifx\currentmode\c!answer\ifmode_debug {\ss AnswerINFO : }\exam_showanswerinfo\\fi\fi
650 \csname ifmode_show#2\endcsname
651 \dousestyleparameter {\csname #1parameter\endcsname}{#2style}%
652 \dousecolorparameter {\csname #1parameter\endcsname}{#2color}%
653 \csname e!start #1examinfo\endcsname
654 \left_assignedlabel% like=>answer : blabla
655 \ifx\currentmode\c!point% if #2 = point
656 \ifempty\p_totalpoint
657 \ifenv_answer
658 \ifdefined\currentpointforanswer\currentpointforanswer
659 \else\showmessage\m!basicexam{201}\fi%为了实现答案在环境内部或者外部都可以正确获取分
660 数
661 \else
662 \ifmode_debug{\ttx\darkyellow \item_bottotalitemnumber :: \currentlevel ::
663 \topHelperID :: \midHelperID :: \HelperID :: \currentQuestionID}\fi
664 \ifenv_toplevel
665 \ifenv_answer\else\datasetvariable{ExamDatasetHelper}{\topHelperID}{totalpoint}
666 \fi
667 \xdef\currentpointforanswer{\datasetvariable{ExamDatasetHelper}{\topHelperID}{
668 totalpoint}}%
669 \else
670 \ifenv_botlevel
671 \ifenv_answer\else\point_point\fi
672 \xdef\currentpointforanswer{\point_point}%
673 \else
674 \doifsomethingelse{\item_bottotalitemnumber}{\scratchcounter\item_bottotalitemnumber
675 }\scratchcounter\zerocount}\null
676 \ifnum\scratchcounter<2\relax
677 \ifenv_answer\else\point_point\fi
678 \xdef\currentpointforanswer{\point_point}%
679 \else
680 \ifenv_answer\else\datasetvariable{ExamDatasetHelper}{\midHelperID}{
681 bottotalpoint}\fi
682 \xdef\currentpointforanswer{\datasetvariable{ExamDatasetHelper}{\midHelperID}{
683 bottotalpoint}}%
684 \fi
685 \fi
686 \fi
687 \fi
688 \else
689 \p_totalpoint
690 \fi
691 \else% if #2 = answer。因为 currentXXXanswer 是有定义内容的,
692 \ifmode_example You're in EXAMPLE MODE!\else

```

```

693     \ifempty\p_totalanswer
694     \answer_answer
695     \else
696     \p_totalanswer
697     \fi
698     \fi% 直接獲取當前 QID 答案
699     \fi
700     \right_assignedlabel
701     \csname\!stop #1examinfo\endcsname
702     \fi
703 \endgroup\allowbreak
704 \ifdefined\currentprevpoint\else
705     \edef\currentprevpoint{\csname #1parameter\endcsname\c!point}\fi
706 \ifdefined\currentprevanswer
707     \edef\currentprevanswer{\csname #1parameter\endcsname\c!answer}\else
708     \edef\currentprevanswer{\csname #1parameter\endcsname\c!answer}%
709 \fi%\ttx\blue 0 : \currentprevanswer}
710 \removeunwantedspaces\allowbreak}

711 \def\p_assigned_currentlabel#1#2{%
712 \expandafter\edef%
713 \csname p_current#1#2label%
714 \expandafter\expandafter
715 \expandafter\endcsname
716 \expandafter\expandafter
717 \expandafter}%
718 \csname #1parameter\endcsname{#2label}}

719 \def\p_pass_currentlabel[#1]{\p_assign_currentlabel[#1,,]}
720 \def\p_assign_currentlabel[#1,#2,#3]#4%
721 {\expandafter\def\csname left_assigned#4label\endcsname{#1}%
722 \expandafter\def\csname right_assigned#4label\endcsname{#2}}

723 \tolerant\protected\def\installpointoranswer[#1]*[#2]#1 parameter % #2 modename
724 {\install_point[#1][#2]\install_answer[#1][#2]}

725 \defineconversion[tnum][\addff{tabularnumbers}]
726 \protected\def\installitemgroupoption[#1][#2]{%
727 \setupitemgroup[env:#1][each][
728     \c!margin={\csname #2parameter\endcsname\c!margin},%
729     \c!leftmargin={\csname #2parameter\endcsname\c!leftmargin},%
730     \c!rightmargin={\csname #2parameter\endcsname\c!rightmargin},%
731     \c!leftmargindistance={\csname #2parameter\endcsname\c!leftmargindistance},%
732     \c!rightmargindistance={\csname #2parameter\endcsname\c!rightmargindistance},%
733     \c!indentnext={\csname #2parameter\endcsname\c!indentnext},%
734     \c!width={\csname #2parameter\endcsname\c!width},%
735     \c!factor={\csname #2parameter\endcsname\c!factor},%
736     \c!distance={\csname #2parameter\endcsname\c!distance},%
737     \c!step={\csname #2parameter\endcsname\c!step},%
738     \c!align={\csname #2parameter\endcsname\c!align},%
739     \c!symalign={\csname #2parameter\endcsname\c!symalign},%
740     \c!color={\csname #2parameter\endcsname\c!color},%

```

```

741 \c!indenting={\csname #2parameter\endcsname\c!indenting},%
742 \c!style={\csname #2parameter\endcsname\c!style},%
743 \c!marstyle={\csname #2parameter\endcsname\c!marstyle},%
744 \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
745 \c!headstyle={\csname #2parameter\endcsname\c!headstyle},%
746 \c!marcolor={\csname #2parameter\endcsname\c!marcolor},%
747 \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
748 \c!headcolor={\csname #2parameter\endcsname\c!headcolor},%
749 \c!beforehead={\csname #2parameter\endcsname\c!beforehead},%
750 \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
751 \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
752 \c!afterhead={\csname #2parameter\endcsname\c!afterhead},%
753 \c!before={\csname #2parameter\endcsname\c!before},%
754 \c!inbetween={\csname #2parameter\endcsname\c!inbetween},%
755 \c!after={\csname #2parameter\endcsname\c!after},%
756 \c!stopper={\csname #2parameter\endcsname\c!stopper},%
757 \c!placestopper={\csname #2parameter\endcsname\c!placestopper},%
758 \c!stopper={\csname #2parameter\endcsname\c!stopper},%
759 \c!inner={\csname #2parameter\endcsname\c!inner},%
760 \c!n={\csname #2parameter\endcsname\c!n},%
761 \c!items={\csname #2parameter\endcsname\c!items},%
762 \c!levels={\csname #2parameter\endcsname\c!levels},%
763 \c!lefttext={\csname #2parameter\endcsname\c!lefttext},%
764 \c!righttext={\csname #2parameter\endcsname\c!righttext},%
765 \c!left={\csname #2parameter\endcsname\c!left},%
766 \c!right={\csname #2parameter\endcsname\c!right},%
767 \c!packcriterium={\csname #2parameter\endcsname\c!packcriterium},%
768 \c!criterium={\csname #2parameter\endcsname\c!criterium},%
769 \c!textdistance={\csname #2parameter\endcsname\c!textdistance},%
770 \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator},%
771 \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator},%
772 \c!command={\csname #2parameter\endcsname\c!command},%
773 \c!indenting={\csname #2parameter\endcsname\c!indenting},%
774 \c!alignsymbol={\csname #2parameter\endcsname\c!alignsymbol},%
775 \c!symbol={\csname #2parameter\endcsname\c!symbol},%
776 \c!option={\csname #2parameter\endcsname\c!option},%
777 % \c!start={\csname #2parameter\endcsname\c!start},%
778 \c!start={\csname #2parameter\endcsname\c!start},%
779 \c!state={\csname #2parameter\endcsname\c!state},% % beware, "" == start
780 \c!way={\csname #2parameter\endcsname\c!way},% % wont work if continue on
781 \c!prefix={\csname #2parameter\endcsname\c!prefix},%
782 \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset},%
783 \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion},%
784 \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset},%
785 \c!prefixstarter={\csname #2parameter\endcsname\c!prefixstarter},%
786 \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
787 \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
788 \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments},%
789 \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
790 \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector},%
791 \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset},%

```



```

792     \c!numberconversion={\csname #2parameter\endcsname\c!numberconversion},%
793     \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset},%
794     \c!numberstarter={\csname #2parameter\endcsname\c!numberstarter},%
795     \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
796     \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},
797     %       \c!prefix={\csname #2parameter\endcsname\c!prefix},%
798     %       \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
799     % \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset},%
800     % \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion},%
801     % \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset},%
802     %       \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
803     %       \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments},%
804     %       \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector},%
805     % \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset},%
806     % \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset},%
807     % \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
808     % \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},
809 ]%
810 }

```



## 4 繪製卷頭 / print title / タイトルの作成

```
\definepapertitle
\setuppapertitle
\makepapertitle
```

The following command simply shows how to define, set and draw a new test paper information.

- 通過 `\definepapertitle[PaperTitleName]` 命令可以新建卷頭信息,
- 通過 `\setuppapertitle[PaperTitleName]` 命令可以設定卷頭信息,
- 通過 `\makepapertitle[PaperTitleName]` 命令可以繪製卷頭結果。

`\definepapertitle` and `\setuppapertitle` accept one required and two optional parameters. The first parameter is the name of the test paper. The second parameter is the name of the parent test paper, which can be inherited by setting the parent. The third parameter can directly set the relevant style and content. The order can be set through 'list' parameters. The default order is 'secret, title, subject, information, notice'.

Once you've defined the **list** parameter, it will automatically expand the relevant parameters to define its style. For example, if you define a **title** parameter in the **list**, it will automatically expand the following parameters:

```
\setuppapertitle[list={title,and some other info}]
```

Value	Value
title	titlealign
titlestyle	beforetitle
titlecolor	aftertitle

```
\definepapertitle[papertitles]
\setuppapertitle [papertitles][
  list={secret,title,subject,information,notice},
  subjectsuffix=学科试卷,
  secretstyle=\ss,
  titlestyle=\ssa,
  subjectstyle=\ssb,
  informationstyle=\ttx,
  noticestyle=\rm\it,
  secretalign=flushleft,
  titlealign=center,
  subjectalign=center,
  informationalalign=center,
  noticealign=flushleft,
  secret={绝密 ★ 启用前},
  title={2021 年普通高等学校招生全国统一考试},
  subject={日语},
  information={总分:150 分, 考试时间:120 分钟},
  notice={注意事项:
    \startitemize[n,packed,joinedup]
    \item 答题前, 务必将自己的姓名、准考证号填写在%
      答题卡规定的位置上。%
    \item 答选择题时, 必须使用 2B 铅笔将答题卡上对%
      应题目的答案标号涂黑。如需改动, 用橡皮擦%
      擦干净后, 再选涂其它答案标号。答非选择题%
      时, 必须使用 0.5 毫米黑色签字笔, 将答案%
      书写在答题卡规定的位置上。所有题目必须在答%
      题卡上作答, 在试题卷上答题无效。 %
```

```

\item 考试结束后，将试题卷和答题卡一并交回。
\stopitemize},
]
\makepapertitle [papertitles]
%If you want, you can also change the key value directly here.like
% \makepapertitle [papertitles][title=new paper title]

811 \installnamespace {papertitle}
812 \installnamespace {papertitlealternative}
813 \installnamespace {papertitlerenderings}

814 \installcommandhandler \????papertitle {papertitle} \????papertitle
815 \installcommandhandler \? ? ? ?papertitlealternative {papertitlealternative}
816 \????papertitlealternative

817 \def\doifemptyelsex#1#2{\doifelse{#1}{#2}{#1}}
818 \def\definepapertitlevariable#1{\begingroup% #1=element name
819 \parindent0pt\relax\par%
820 \doifelse{\namedpapertitleparameter{\currentpapertitle}{#1align}}{#1}%
821 {\setupalign[center]}%
822 {\setupalign[\namedpapertitleparameter{\currentpapertitle}{#1align}]}%
823 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{before#1}}{#1}%
824 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1style}}{#1}%
825 \expandafter\beginsname\namedpapertitleparameter{\currentpapertitle}{#1color}\endcsname
826 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1}}{#1}%
827 {\showmessage\m!basicexam{3}{#1}}%
828 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{after#1}}{#1}%
829 \par\endgroup}

830 \tolerant\def\makepapertitle[#1][#2]%
831 {\begingroup\cdef\currentpapertitle{#1}%
832 \ifarguments\or\or\setuppapertitle[#1][#2]\fi
833 \edef\currentpapertitlealternative{\papertitleparameter{c!alternative}}%
834 \ifcsname\currentpapertitlealternativehash\s!parent\endcsname \else
835 \let\currentpapertitlealternative\s!default
836 \fi
837 \usesetupparameter\papertitleparameter
838 \edef\p_renderingsetup{\papertitlealternativeparameter{c!renderingsetup}}%
839 \directsetup\p_renderingsetup
840 \marking[subject]{\papertitleparameter{subject}}%
841 \papertitleparameter{subjectsuffix}%
842 \marking[title]{\papertitleparameter{c!title}}%
843 \endgroup}

```

At the same time, you can define your own test paper title template through **alternative**. here is an example for default alternative.

```

844 \definepapertitlealternative
845 [\s!default]
846 [\c!renderingsetup=\????papertitlerenderings:\s!default]

847 \startsetups[\????papertitlerenderings:\s!default]
848 \edef\currentlist{\papertitleparameter{c!list}}

```

```

849 \edef\currenttitle{\papertitleparameter\c!title}
850 \expandafter\expandafter\expandafter\tu\expandafter{\currenttitle}
851 \processcommacommand[\currentlist]\definepapertitlevariable
852 \stopsetups

853 \setuppapertitle [
854   \c!alternative=\s!default,
855   subjectsuffix=学科试卷,
856   list={secret,title,subject,information,signinformation,notice},
857 ]
858 \setuppapertitle [
859   secretstyle=\ss,
860   titlestyle=\ssa,
861   subjectstyle=\ssb,
862   informationstyle=\ttx,
863   noticestyle=\rm\it,
864   secretalign=flushleft,
865   titlealign=center,
866   subjectalign=center,
867   informationalign=center,
868   noticealign=flushleft,
869   secret={绝密 ★ 启用前},
870   title={\currentdate[year] 年普通高等学校招生全国统一考试},
871   subject={英语},
872   signinformation={{姓名: }{\blackrule[width=4em,height=.2pt]}
873     {准考证号: }{\blackrule[width=4em,height=.2pt]}}},
874   information={全卷共12页, 满分150分, 考试时间120分钟。},
875   notice={考生注意:
876     \startitemize[n,packed,joinedup]
877     \item 答题前, 请务必将自己的姓名、准考证号用黑色字迹的签字笔
878       或钢笔分别填写在试题卷和答题纸规定的位置上。 %
879     \item 答题时, 请按照答题纸上“注意事项”的要求, 在答题纸相应的
880       位置上规范作答, 在本试题卷上的作答一律无效。 %
881     \stopitemize},
882 ]

883 \definepapertitle[newpaper]

```



## 5 设定一些可能用得到的符号 / Symbol Defination / シンボルの定義

```

884 \doifelsefontpresent{NotoSansSymbols2-Regular}{\fontfamily{NotoSansSymbols2-Regular}}{}
885 \showmessage{m!basicexam}{9}{\fontfamily{NotoSansSymbols2-Regular}}
886 \definefontsynonym[NotoSansSymbols2][file:NotoSansSymbols2-Regular]
887 \def\notosymb#1{\getglyphstyle{NotoSansSymbols2}{\tochar{n:#1}}}

888 \definesymbol[matrixsquare] [\notosymb{□}]
889 \definesymbol[markcircle] [\notosymb{○}]
890 \definesymbol[marknotcheck] [\notosymb{✗}]
891 \definesymbol[markcheck] [\notosymb{✓}]
892 \definesymbol[markheavycheck] [\notosymb{✔}]
893 \definesymbol[matrixsquarecheck] [\notosymb{□} \rlap{\,}, \raise{.2em}\hbox{✓}]
894 \definesymbol[matrixsquareheavycheck] [\notosymb{□} \rlap{\,}, \raise{.2em}\hbox{✔}]
895 \definesymbol[markcirclecheck] [\notosymb{○} \rlap{\,}, \raise{.2em}\hbox{✓}]
896 \definesymbol[markcircleheavycheck] [\notosymb{○} \rlap{\,}, \raise{.2em}\hbox{✔}]
897 \definesymbol[markcross] [\notosymb{✕}]
898 \definesymbol[markheavycross] [\notosymb{⦿}]
899 \definesymbol[matrixsquarecross] [\notosymb{□} \rlap{\,}, \raise{.1em}\hbox{✕}]
900 \definesymbol[matrixsquareheavycross] [\notosymb{□} \rlap{\,}, \raise{.1em}\hbox{⦿}]
901 \definesymbol[markcirclecross] [\notosymb{○} \rlap{\,}, \raise{.1em}\hbox{✕}]
902 \definesymbol[markcircleheavycross] [\notosymb{○} \rlap{\,}, \raise{.1em}\hbox{⦿}]

```

It is important to note that these symbols require the font **NotoSansSymbols2** to be pre-installed.

<code>\symbol{matrixsquare}</code>	□	<code>\symbol{markcircle}</code>	○
<code>\symbol{markcheck}</code>	✓	<code>\symbol{markcross}</code>	✕
<code>\symbol{markheavycheck}</code>	✔	<code>\symbol{markheavycross}</code>	⦿
<code>\symbol{matrixsquarecheck}</code>	□ ✓	<code>\symbol{matrixsquarecross}</code>	□ ✕
<code>\symbol{matrixsquareheavycheck}</code>	□ ✔	<code>\symbol{matrixsquareheavycross}</code>	□ ⦿
<code>\symbol{markcirclecheck}</code>	○ ✓	<code>\symbol{markcirclecross}</code>	○ ✕
<code>\symbol{markcircleheavycheck}</code>	○ ✔	<code>\symbol{markcircleheavycross}</code>	○ ⦿
<code>\symbol{marknotcheck}</code>	✗		



## 6 设置 question 环境

With the merger of the code, the question environment, the problem environment, and the optclose environment have now been completely combined into one environment. You can switch through the class key value.

```
\definequestion[newquestioninstance]
\setupquestion[newquestioninstance] [class=problem]
```

The `\question` environment command can be used to set the stem. Simply wrap the stem between the `\startquestion` `\stopquestion` commands. At the same time, we have defined a short command `\question`, which is used as a synonym for `\startquestion` `\stopquestion`

```
\startquestion
  The environment is located in: \currentitemgroup。
\stopquestion
\startquestion
  The environment is located in: \currentitemgroup。
\stopquestion
\question {The environment is located in: \currentitemgroup。}
```

1. The environment is located in: env:question:1。
2. The environment is located in: env:question:1。
3. The environment is located in: env:question:1。

The `\question` environment command inherits the option settings for the `\itemgroup` environment. Therefore, you can modify the environment using `\setupquestion` in the same way you modify `\itemgroup`.

```
\setupquestion[color=green,style=\ss,start=22,
               option={n,packed,joinedup,nowhite,}]
\startquestion
  The environment is located in: \currentitemgroup。
\stopquestion
```

22. The environment is located in: env:question:1。

question 环境可以设置答案和分值。该键值详细的设置如下：

showanswer	answer	answerstyle	answercolor
		answerlabel	answerlabel
showpoint	point	pointstyle	pointcolor
		pointprelabel	pointlabel

```
\setupquestion[start=1,option={n,packed,joinedup,nowhite,}]
\startquestion[showpoint=true,point=5,pointlabel={points},
               showanswer=true,answer={new answer},answerstyle={\tt},]
  The environment is located in: \currentitemgroup。
\stopquestion
```

```
1. (points5)(answer:new answer)The environment is located in: env:question:1.
```

此外，question 设置了一个特殊的键值 example=true，可以是当前题目不被录入答案。在(v20241023)中，通过不太正常的方式设置了 example 后的题目可以自动重置回到序数 1。或许，可以设置一个新的键值，来设定 example 之后的题目是重置为 1 还是接续上一个序号。此外，由于 question 内置了一个 item，因此可以使用 reference 来创建引用。

**About the settings of point and answer:** point 的分值默认是一整个题目的总分（如果包括子题目，在该宏包无法正常获取分值或分数时，可以使用 totalpoint 或者 totalanswer 来直接设定分数或答案）。如果当前字环境为 problem，只要为每个 pitem 设计了 point 的分值，该模块就会自动计算。answer 的获取也是一样。在设计时，pitem 默认是拥有多个同级项目的。也就是说，会在同一个 question 环境中，有多个子答案。我们无法得知应该使用哪一个作为当前环境的答案。同样的道理，每个 question 环境内只有一个 choice 环境，只需要直接为 question 环境配置分值即可。

```

903 \installnamespace      {question}
904 \installcommandhandler \???question {question} \???question

905 \appendtoks
906 \frozen\instance\protected\edefcsname \currentquestion\endcsname{\directnamedquestion[
907 \currentquestion]}%
908 \frozen\instance\protected\edefcsname\!start\currentquestion\endcsname{
909 \startnamedquestion [\currentquestion]}%
910 \frozen\instance\protected\edefcsname\!stop \currentquestion\endcsname{
911 \stopnamedquestion}%
912 \to \everydefinequestion

913 \tolerant\protected\def\directnamedquestion[#1]#*[#S#2]#*[#S#3]#*%
914 {\groupcommand{\startnamedquestion[#1][#2][#3]}\stopnamedquestion}}

915 \tolerant\protected\def\startnamedquestion[#S#1]#*[#S#2]#*[#S#3]#*%
916 {\begingroup\edef\currentquestion{#1}%
917 \ifarguments
918 \edef\p_option{}}%
919 \or\edef\p_option{}}%
920 \or
921 \edef\p_class{\questionparameter\c!class}%
922 \ifx\p_class\s!problem
923 \setupitemgroup[env:problem][#2]%
924 \else
925 \setupitemgroup[env:question][#2]%
926 \fi
927 \ifhastok={#2}%
928 \edef\p_option{}\setupquestion[#2]\else
929 \edef\p_option{#2}\fi
930 \or
931 \ifhastok={#2}\setupquestion[#2]\else
932 \setupquestion[#3]\fi
933 \edef\p_class{\questionparameter\c!class}%
934 \edef\p_option{#2}%
935 \ifx\p_class\s!problem
936 \setupitemgroup[env:problem][#3,option={#2}]%

```



```

937     \else
938       \setupitemgroup[env:question][#3,option={#2}]\fi
939 \fi\let\p_option_bak\p_option
940 \edef\p_class{\questionparameter\c!class}%
941 \edef\p_start{\questionparameter\c!start}%
942 \edef\p_reset{\questionparameter\c!reset}%
943 \edef\p_option{\questionparameter\c!option,\p_option_bak}%
944 \edef\p_defaultoption{n,packed,nowhite,joinedup,continue}%
945 \ifx\p_class\s!question
946   \env_questiontrue\set_envitem_counter
947   \ifx\p_reset\s!true\resetcounter[itemgroup:env:question]\fi
948   \ifmode_example
949     \installitemgroupoption[example][question]%
950     \startitemgroup[env:example][\p_option]\else
951     \installitemgroupoption[question][question]%
952     \startitemgroup[env:question][\p_option]%
953   \fi
954   \item[\questionparameter\c!reference]%
955   \set_count_envlevel[question]%
956 \fi
957 \ifx\p_class\s!problem
958   % =====
959   % problem 環境現在已經基本不發揮作用，除了重置某些計數器和調整樣式之外，
960   % 幾乎所有的功能都消失了。optclose 環境也基本一樣。
961   % 除非有重大錯誤，否則，不應該繼續添加代碼，以防止計算點數和答案出錯。
962   % =====
963   \ifdefined\prevlevel\else\errmessage{problem cannot exist as a top-level environment,
964     please place it in the question environment}\fi
965   \env_problemttrue\set_envitem_counter
966   \ifx\p_reset\s!true\resetcounter[itemgroup:env:problem]\fi
967   \ifmode_example
968     \installitemgroupoption[example][question]%
969     \startitemgroup[env:example][\p_option]\else
970     \installitemgroupoption[problem][question]%
971     \startitemgroup[env:problem][\p_option]%
972   \fi\inititemnumber
973   \xdef\currentQuestionID{\ifmode_example\EQuestionID\else
974     \somenamedheadnumber{chapter}{current}-\rawcountervalue[Unicode]\fi}%
975   \edef\item_bottotalitemnumber_temp{0}%
976 \fi
977 \ifx\p_class\s!optclose
978   \env_closetrue\set_envitem_counter
979   \ifx\p_reset\s!true\resetcounter[itemgroup:env:question]\fi
980   \ifmode_example
981     \installitemgroupoption[example][question]%
982     \startitemgroup[env:example][\p_option]\else
983     \installitemgroupoption[question][question]%
984     \startitemgroup[env:question][\p_option]%
985   \fi
986   \leftskip=0pt\relax
987 \fi

```

```

988 % 应对 problem 不开启 point 和 answer 导致后续环境无法继承状态的问题
989 \ifmode_showanswer\edef\temp_showanswer{}\fi
990 \ifmode_showpoint \edef\temp_showpoint{ }\fi
991 \showpointoranswer[question][point]%
992 \showpointoranswer[question][answer]%
993 \ifdefined\temp_showanswer\mode_showanswertrue\fi
994 \ifdefined\temp_showpoint \mode_showpointtrue \fi
995 \usequestionstyleandcolor\c!textstyle\c!textcolor
996 \save_question_order}

997 \protected\def\stopnamedquestion{%
998 \ifx\p_class\s!question
999 \ifenv_toplevel
1000 \ifnum\c_envnumber=1\relax% 当前环境为 question
1001 \ifnum\rawcountervalue[Unicode_midlevel]=0% 且只有一个子题目即题目本身
1002 \installpointoranswer[question][answer]%
1003 \installpointoranswer[question][point]%
1004 \installdatacollector\installdatacollectorhelper
1005 \fi
1006 \fi
1007 \else
1008 \installpointoranswer[question][answer]%
1009 \installpointoranswer[question][point]%
1010 \installdatacollector\installdatacollectorhelper
1011 \fi
1012 \fi
1013 \stopitemgroup
1014 \endgroup}

1015 \setupquestion
1016 [class=question,
1017 %example=,
1018 %showpoint=false,
1019 %point=,
1020 pointstyle=\ttx,
1021 %pointcolor=,
1022 %pointprelabel=,
1023 pointlabel={,\examtexts{point}},
1024 %showanswer=false,
1025 %answer=,
1026 answerlabel={,\examtexts{answer}},
1027 answerstyle=\ttx,
1028 %answerstyle=,
1029 indenting=no,
1030 way=bychapter,
1031 numberconversion=tnum,]

1032 \setupquestion
1033 [\c!margin=\zeropoint,
1034 \c!leftmargin=\zeropoint,
1035 \c!rightmargin=\zeropoint,
1036 \c!leftmargindistance=\zeropoint,

```

```

1037 \c!rightmargindistance=\zeropoint,
1038 \c!indentnext=\v!yes,
1039 \c!width=1.5\emwidth,
1040 \c!factor=0,
1041 \c!step=.5\emwidth, % deals with broad
1042 \c!distance=\zeropoint,
1043 %\c!align=\v!normal, % definitely not \v!normal !
1044 %\c!symalign=,
1045 %\c!color=,
1046 %\c!indenting=, % untouched if empty
1047 %\c!style=,
1048 \c!marstyle=\v!type,
1049 %\c!symstyle=,
1050 %\c!headstyle=,
1051 %\c!marcolor=,
1052 %\c!symcolor=,
1053 %\c!headcolor=,
1054 %\c!beforehead=,
1055 \c!symcolor=\itemgroupparameter\c!color,
1056 \c!symstyle=\itemgroupparameter\c!style,
1057 \c!afterhead=\blank,
1058 \c!before=,
1059 \c!inbetween=,
1060 \c!after=,
1061 %\c!stopper=.,
1062 \c!placestopper=\v!yes,
1063 \c!stopper={. },
1064 %\c!inner=,
1065 \c!n=2,
1066 \c!items=4,
1067 \c!levels=10,
1068 \c!lefttext=,
1069 \c!righttext=,
1070 \c!start=1,
1071 \c!packcriterium=\zerocount,
1072 \c!criterium=\v!all, % permits 0 and negative numbers
1073 \c!option={n,packed,joinedup,nowhite,continue},
1074 \c!textdistance=\v!space, % none big medium small <dimension>
1075 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1076 %\c!lasttextseparator=,
1077 \c!command=\strc_itemgroups_default_command,
1078 \c!indenting=\v!next,
1079 %\c!alignsymbol=\v!no,
1080 \c!symbol=\currentitemlevel,
1081 \c!prefix=\v!no,
1082 %\c!prefixstopper=.,
1083 %\c!prefixseparatorset=,
1084 %\c!prefixconversion=,
1085 %\c!prefixconversionset=,
1086 %\c!prefixset=,
1087 %\c!prefixsegments=1:100,

```

## Memoir Ever

```
1088 \c!prefixconnector=.,
1089 \c!numberseparatorset=,
1090 \c!numberconversionset=,
1091 \c!numberstopper=.,
1092 \c!numbersegments=1]

1093 \definequestion[question]
```

## 7 设置 problem 环境 / Problem Environment

The environment `\problem` command can set up multiple aggregate issues, and the environment has a specific subcommand `\pitem` to list each issue. It can be used to set fill-in-the-blank, Q&A, and other questions.

```
\startquestion
  The environment is located in: \currentitemgroup。
\startproblem
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\stopproblem
\stopquestion
```

2. The environment is located in: `env:question:1`。
- (1) The environment is located in: `env:problem:2`。
- (2) The environment is located in: `env:problem:2`。
- (3) The environment is located in: `env:problem:2`。

The problem environment only inherits the key-value pairs from the itemgroup environment and does not set any new key-values. In the current version (v20241023), the settings for answers and scores have been removed. Because, under the problem environment, there are usually many pitems, and each question may have its own score and answer. Therefore, for design purposes, the answers and scores of each question are directly set through `\pitem`.

```
\startquestion
  The environment is located in: \currentitemgroup。
\startproblem
\startpitem[showpoint=true,point=5]    The environment is located in: \currentitemgroup。
\stoppitem
\startpitem[showanswer=true,answer={newer}] The environment is located in:
\currentitemgroup。 \stoppitem
\startpitem[]                          The environment is located in: \currentitemgroup。 \stoppitem
\stopproblem
\stopquestion
```

3. The environment is located in: `env:question:1`。
- (1) `(5pts)` The environment is located in: `env:problem:2`。
- (2) `(answer:newer)` The environment is located in: `env:problem:2`。
- (3) The environment is located in: `env:problem:2`。

Unlike the `\question` environment, where all ordinal numbers are sequential, the `\problem` environment is recounted each time it starts.

If you want to add stems to the `\problem` environment, you can place the `\problem` environment in the `\question` environment.

```
\startquestion
  The environment is located in: \currentitemgroup。
```

```

\startproblem[left={({,right={})},distance=1em,stopper={}]
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\startpitem The environment is located in: \currentitemgroup。 \stoppitem
\stopproblem
\stopquestion

```

4. The environment is located in: env:question:1。
- (1) The environment is located in: env:problem:2。
  - (2) The environment is located in: env:problem:2。
  - (3) The environment is located in: env:problem:2。

If you want to set a fill-in-the-blank question, you can use the `\fillin` command. The use of `\fillin` and `\startanswer` will be mentioned later.

```

\setupanswer[showanswer=true]
\startquestion
The environment is located in: \currentitemgroup。
\setuppitem[showanswer=true]
\startproblem[left={({,right={})},distance=1em,stopper={}]
\startpitem The environment is located in: \fillin{env_question:1}。 \stoppitem
\startanswer\input knuthmath\stopanswer
\startpitem The environment is located in: \fillin[mp=rules:under:wave]{env_question:1}。
\stoppitem
\startanswer\input knuthmath\stopanswer
\startpitem
The environment is located in: \fillin[empty=number]{env_question:2}。
\stoppitem
\startanswer\input knuthmath\stopanswer
\startpitem The environment is located in: \fillin[empty=yes]{env_question:3}。
\stoppitem
\startanswer\input knuthmath\stopanswer
\startpitem The environment is located in: \fillin[empty=yes,left={({,right={})}]
{env_question:4}。 \stoppitem
\startanswer\input knuthmath\stopanswer
\stopproblem
\stopquestion

```

5. The environment is located in: env:question:1。

(1) (answer:env\_question:1)The environment is located in: env\_question:1。

(answer:env\_question:1)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(2) (answer:env\_question:1)The environment is located in: env\_question:1。

(answer:env\_question:1)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(3) (answer:env\_question:2)The environment is located in: env\_question:2。

(answer:env\_question:2)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(4) (answer:env\_question:3)The environment is located in: env\_question:3。

(answer:env\_question:3)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(5) (answer:env\_question:4)The environment is located in: ((env\_question:4))。

(answer:env\_question:4)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

In addition to this, you can define a new problem environment via `\defineproblem[XXX]` , which will generate two new commands `\startXXX` , `\stopXXX`

```

1094 \definequestion[problem]
1095 \def\setupproblem{\setupquestion[problem]}

1096 \setupproblem[showanswer=false,showpoint=false]

1097 \definequestion[subquestion]
1098 \def\setupsubquestion{\setupquestion[subquestion]}

1099 \setupproblem
1100 [\c!class=\s!problem,
1101  \c!left=(,\c!lefttext=(,
1102  \c!right=),\c!righttext=),
1103  \c!stopper=,
1104  \c!option={n,packed,joinedup,nowhite},]

1105 \setupsubquestion

```

```

1106 [\c!class=\s!problem,
1107 \c!left=(,\c!lefttext=(,
1108 \c!right=),\c!righttext=),
1109 \c!stopper=,
1110 \c!option={n,packed,joinedup,nowhite},]

```

userquestion 和 useritem 是为了应对本模块未曾考虑到的题型而设计的通用型 macro，useritem 可以单独存在，此时它类似于 question 环境。答案和分数是分别计算的。也可以放置在 userquestion 环境下，此时它类似 fillin 可以不断记录答案，知道环境结束。但需要注意，这两个 macro 不可以与现存的其他命令同时使用，会导致一些未曾测试的错误。

```

\setupuserquestion[point=1,showanswer=true,showpoint=true]
\useritem{z1} \useritem{z2} \useritem{z3}

\startuserquestion
\useritem{z1} \useritem{z2} \useritem{z3}
\stopuserquestion

```

(1)(z1) (1)(z2) (1)(z3) (1)(z1,z2,z3)
--

```

1111 \installnamespace      {userquestion}
1112 \installcommandhandler \???userquestion {userquestion} \???userquestion

1113 \defineuserquestion[userquestion]
1114 \defineuserquestion[useritem]

1115 \setupuserquestion[
1116   showpoint=false,
1117   pointlabel={ (, ) },
1118   answerlabel={ (, ) },]

1119 \tolerant\protected\def\useritem[#1]#:#2%
1120 {\begingroup
1121  \edef\currentuserquestion{useritem}%
1122  \setupcurrentuserquestion[#1]%
1123  \edef\currentanswer{#2}%
1124  \ifdefined\prevuserquestion
1125   \edef\currentanswer {#2\collectanswer{#2}}%
1126   \edef\currentuseritemanswer{\collectedanswer}%
1127   \ifempty\currentuseritemanswer
1128    \edef\currentanswer{\currentprevanswer}%
1129   \else\edef\currentanswer{\collectedanswer}%
1130   \fi
1131   \aftergrouped{\xdef\currentprevanswer{\collectedanswer}}%
1132  \else
1133   \useuserquestionstyleandcolor\c!style\c!color
1134   \userquestionparameter\c!left
1135   \letuserquestionparameter\c!answer\currentanswer
1136   \set_count_envlevel[userquestion]%
1137   \showpointoranswer [userquestion][point]%
1138   \showpointoranswer [userquestion][answer]%

```



```

1139 \userquestionparameter\c!right
1140 \installpointoranswer[userquestion][answer]%
1141 \installpointoranswer[userquestion][point]%
1142 \installdatacollector
1143 \installdatacollectorhelper
1144 \fi
1145 \endgroup}

1146 \tolerant\protected\def\startuserquestion#*[#1]#*%
1147 {\begingroup
1148 \edef\currentuserquestion{userquestion}%
1149 \edef\prevuserquestion{userquestion}%
1150 \setupcurrentuserquestion[#1]%
1151 \useuserquestionstyleandcolor\c!style\c!color
1152 \userquestionparameter\c!left
1153 \set_count_envlevel[userquestion]%
1154 \letuserquestionparameter\c!answer\currentanswer
1155 \showpointoranswer [userquestion][point]%
1156 \showpointoranswer [userquestion][answer]%
1157 }

1158 \def\stopuserquestion%
1159 {\installpointoranswer[userquestion][answer]%
1160 \installpointoranswer[userquestion][point]%
1161 \installdatacollector
1162 \installdatacollectorhelper
1163 \userquestionparameter\c!right
1164 \endgroup}

1165 %%%%%%%%%%%

```



## 8 设置 choice 环境

該環境命令只能置於 `\question` 環境之下。該環境有一個子項目：`\startcitem \stopcitem`。

```
\startcitem {選項內容} \stopcitem
```

可以通過 `[*]` 來標記正確答案。如果想要設置多選題，只需要對每個正確答案添加 `[*]` 即可。

```
\setupquestion[showanswer=true]
\startquestion
  The environment is located in: \currentitemgroup。
  \startchoice
    \startcitem[*]{Some Words}\stopcitem
    \startcitem{Some Words}\stopcitem
    \startcitem[*]{Some Words}\stopcitem
    \startcitem{Some Words}\stopcitem
  \stopchoice
\stopquestion
\startquestion
  The environment is located in: \currentitemgroup。
  \startchoice
    \startcitem{Some More Words}\stopcitem
    \startcitem{Some More Words}\stopcitem
    \startcitem[*]{Some More Words}\stopcitem
    \startcitem[*]{Some More Words}\stopcitem
  \stopchoice
\stopquestion
\startquestion
  The environment is located in: \currentitemgroup。
  \startchoice
    \startcitem{Some More More Words}\stopcitem
    \startcitem[*]{Some More More Words}\stopcitem
    \startcitem{Some More More Words}\stopcitem
    \startcitem[*]{Some More More Words}\stopcitem
  \stopchoice
\stopquestion
```

6. (answer:A,C)The environment is located in: env:question:1。  
 A. **Some Words**                      B. Some Words                      C. **Some Words**                      D. Some Words

7. (answer:C,D)The environment is located in: env:question:1。  
 A. Some More Words      B. Some More Words      C. **Some More Words**      D. **Some More Words**

8. (answer:B,D)The environment is located in: env:question:1。  
 A. Some More More Words                      B. **Some More More Words**  
 C. Some More More Words                      D. **Some More More Words**

同時為 `\startcitem\stopcitem` 定義了同義命令 `\citem` 和 `\fragilecitem`。`\fragilecitem` 命令可以不通過界定花括號來排版選項，但可能會引發未知問題，特別是選項中含有空格時。`\citem` 則需要將選項包裹在花括號中。

```
\citem {選項內容}
\fragilecitem 選項內容
```

该环境继承了一部分 itemgroup 的键值，就如同前两个命令一样。不同于 question 具有 answer 和 point 两种键值，该环境只具有 answer 相关的键值，来特别地设置是否显示答案和配置答案样式。因为 choice 环境的特殊性，point 键值通过 question 环境来显示。和 question 环境的区别是 question 环境的 answer 控制答案是否显示在题干以及设置相关样式。choice 环境的 answer 控制答案是否显示在选项以及设置相关样式。

另外，choice 环境有一个特别的值：maxiwidth key is for calcaluted max width of choice and waited to be compare, notice this key is maxiwidth ,and difference from maxwidth which for setupitemgroup command

```

1166 \installnamespace {choice}
1167 \installcommandhandler \???choice {choice} \???choice

1168 \appendtoks
1169 \setuevalue {currentchoice}{directnamedchoice[currentchoice]}%
1170 \setuevalue{!startcurrentchoice}{startnamedchoice [currentchoice]}%
1171 \setuevalue{!stop currentchoice}{stopnamedchoice}%
1172 \to \everydefinechoice

1173 \setupchoice [answerstyle=\ss,
1174             answercolor=red,
1175             inlinechoice=false,
1176             point=\questionparameter\c!point,
1177             maxiwidth=.9\hsize,
1178             numberconversion=A,]

1179 \setvalue{\??itemgroupkeyword\v!vertical}{\setfalse\c_strc_itemgroups_horizontal
1180                                     \setfalse\c_strc_itemgroups_collecting
1181                                     \setfalse\c_strc_itemgroups_inline
1182                                     \setfalse\c_strc_itemgroups_joined
1183                                     \strc_itemgroups_process_set_option_unpack}

1184 \tolerant\protected\def\directnamedchoice[#S#1]#*[#S#2]#*[#S#3]#:#4%
1185 {\begingroup
1186 \startnamedchoice[#1][#2][#3]%
1187 \def\citem_temp##1{\startcitem##1\stopcitem}%
1188 \def\correct##1{##1\collectanswer{##1}}%
1189 \processcommacommand[#4]\citem_temp
1190 \stopnamedchoice\endgroup}

1191 \tolerant\protected\def\startnamedchoice[#S#1]#*[#S#2]#*[#S#3]#*%
1192 {\begingroup\def\currentchoice{#1}%
1193 \ifarguments
1194 \or\oneargumentstrue
1195 \or\twoargumentstrue \setupcurrentchoice[#2]%
1196 \or\threeargumentstrue
1197 \ifhastok={#2}\setupcurrentchoice[#2]\fi
1198 \setupcurrentchoice[#3]%
1199 \fi
1200 \ifnum\c_envnumber = 2\relax
1201 \errmessage{you cannot put choice in problem environment.}
1202 choice env can only be putted in question environment.}\fi
1203 \env_choicetrue\set_envitem_counter
1204 \ifdefined\currentuserorder

```

```

1205 \expandafter\show_check_info{\check_info}%
1206 \else
1207 \ifnum\c_envnumber = 3\relax
1208 \else \set_count_envlevel[choice]\fi
1209 \fi
1210 \doifelsomething{\datasetvariable{ExamDatasetHelper}{\HelperID}{totalitemnumber}}{%
1211 arg_1
1212 {\scratchcounter\datasetvariable{ExamDatasetHelper}{\HelperID}{totalitemnumber}}% arg_2
1213 {\scratchcounter\zerocount}% arg_3
1214 \c_totalchoicenumber=\number\scratchcounter\relax
1215 \doifelsomething{\datasetvariable{ExamDatasetHelper}{\HelperID}{availablecolumns}}{%
1216 {\scratchcounter\datasetvariable{ExamDatasetHelper}{\HelperID}{availablecolumns}}%
1217 {\scratchcounter\zerocount}%
1218 \c_availablecolumns=\number\scratchcounter\relax
1219 \startluacode
1220 tbl_num_temp = {"one","two","three","four",
1221 "five","six","seven","eight","nine"}
1222 local tbl_cit_count = tex.count['c_totalchoicenumber']
1223 local available_columns = tex.count['c_availablecolumns']
1224 available_columns_arg = ""
1225 if (tbl_cit_count == 3) and (available_columns < tbl_cit_count)
1226 then available_columns_arg = "one"
1227 elseif (tbl_cit_count > 1) and (available_columns >= tbl_cit_count)
1228 then available_columns_arg = "horizontal," .. tbl_num_temp[tbl_cit_count]
1229 elseif (tbl_cit_count >= 1) and (available_columns <= 1 )
1230 then available_columns_arg = "one"
1231 else available_columns_arg = "horizontal,two"
1232 end
1233 \stopluacode
1234 \edef\currentrealavailablecolumns{\ctxlua{context(available_columns_arg,"")}}%
1235 \edef\p_option {\choiceparameter\c!option }%
1236 \edef\p_showanswer {\choiceparameter\c!showanswer }%
1237 \edef\p_choicetype {\choiceparameter\c!inlinechoice}%
1238 \edef\p_correctsymbol {\choiceparameter{correctsymbol}}%
1239 \edef\p_defaultoption {A,packed,nowhite,joinedup }%
1240 \edef\currentchoiceanswer {\choiceparameter\c!answer }%
1241 \installitemgroupoption[choice][choice]%
1242 \ifx\p_choicetype\s!true
1243 \ifthreearguments \startitemgroup[env:choice][text,#2][#3]%
1244 \else\iftwoarguments \startitemgroup[env:choice][text,#2][#2]%
1245 \else\ifonearguments \startitemgroup[env:choice][text,\p_option]%
1246 \fi
1247 \fi
1248 \fi
1249 \else
1250 \ifthreearguments
1251 \startitemgroup[env:choice][\ctxlua{context(available_columns_arg,"")},#2][#3]%
1252 \else\iftwoarguments
1253 \startitemgroup[env:choice][\ctxlua{context(available_columns_arg,"")},#2][#2]%
1254 \else\ifonearguments
1255 \startitemgroup[env:choice][\ctxlua{context(available_columns_arg,"")},\p_option]%

```

```

1256     \else
1257         \errmessage{You should define at least one instance for the current environment.}%
1258     \fi
1259 \fi
1260 \fi
1261 \fi
1262 \choiceparameter\c!inlineleft
1263 \ifmode_showanswer\else
1264     \ifx\p_showanswer\s!true
1265         \mode_showanswertrue
1266     \else\mode_showanswerfalse\fi
1267 \fi\usechoicestyleandcolor\c!textstyle\c!textcolor}

1268 \protected\def\stopnamedchoice{%
1269     \removemarkedcontent[inlinechoice_punctuation]%
1270     \d_maxwidth_with_label = \dimexpr\d_width_cit_max +
1271         \d_strc_itemgroups_list_width\relax
1272     \d_compared_maxwidth = \choiceparameter{maxiwidth} \relax
1273 \startluacode
1274     local a = tex.dimen['d_compared_maxwidth']
1275     local b = tex.dimen['d_maxwidth_with_label']
1276     c = math.floor(a/b)
1277 \stopluacode
1278 \edef\currentchoiceanswer{\collectedanswer}%
1279 \ifempty\currentchoiceanswer% 未從選項中收集到答案
1280     \edef\currentanswer{\choiceparameter\c!answer}
1281     \ifempty\currentanswer % 未從當前 choice 收集到答案
1282     \edef\currentanswer{\currentprevanswer}\fi% 讓 choice 繼承前一個答案
1283 \else
1284     \edef\currentanswer{\collectedanswer}%
1285 \fi
1286 \def\currentavailablecolumns{\ctxlua{context(c,"")}}%
1287 \def\currentitemmaxwidth {\the\d_width_cit_max}%
1288 \doifelsomething{\choiceparameter\c!point}%
1289     {\scratchcountertwo\choiceparameter\c!point}%
1290     {\scratchcountertwo\zerocount}%
1291 \edef\currentpoint {\the\scratchcountertwo}%
1292 \edef\currenttotalpoint{\the\scratchcountertwo}%
1293 \installdatacollector\installdatacollectorhelper
1294 \choiceparameter\c!inlineright
1295 \stopitemgroup
1296 \endgroup}

1297 \setupchoice
1298     [\c!margin=\zeropoint,
1299     \c!leftmargin=\zeropoint,
1300     \c!rightmargin=\zeropoint,
1301     \c!leftmarginindistance=\zeropoint,
1302     \c!rightmarginindistance=\zeropoint,
1303     \c!indentnext=\v!yes,
1304     \c!width=1\emwidth,

```

```

1305 \c!factor=0,
1306 \c!step=.5\emwidth, % deals with broad
1307 \c!distance=.2\emwidth,
1308 %\c!align=\v!normal, % definitely not \v!normal !
1309 %\c!symalign=,
1310 %\c!color=,
1311 %\c!indenting=, % untouched if empty
1312 %\c!style=,
1313 \c!marstyle=\v!type,
1314 %\c!symstyle=,
1315 %\c!headstyle=,
1316 %\c!marcolor=,
1317 %\c!symcolor=,
1318 %\c!headcolor=,
1319 %\c!beforehead=,
1320 \c!symcolor=\itemgroupparameter\c!color,
1321 \c!symstyle=\itemgroupparameter\c!style,
1322 \c!afterhead=\blank,
1323 \c!before=,
1324 \c!inbetween=,
1325 \c!after=,
1326 %\c!stopper=.,
1327 \c!placestopper=\v!yes,
1328 \c!stopper={. },
1329 %\c!inner=,
1330 \c!n=2,
1331 \c!items=4,
1332 \c!levels=10,
1333 \c!lefttext=,
1334 \c!righttext=,
1335 \c!start=1,
1336 \c!packcriterium=\zerocount,
1337 \c!criterium=\v!all, % permits 0 and negative numbers
1338 \c!option={A,packed,joinedup,nowhite,},
1339 \c!textdistance=\v!space, % none big medium small <dimension>
1340 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1341 %\c!lasttextseparator=,
1342 \c!command=\strc_itemgroups_default_command,
1343 \c!indenting=\v!next,
1344 %\c!alignsymbol=\v!no,
1345 \c!symbol=\currentitemlevel,
1346 \c!prefix=\v!no,
1347 %\c!prefixstopper=.,
1348 %\c!prefixseparatorset=,
1349 %\c!prefixconversion=,
1350 %\c!prefixconversionset=,
1351 %\c!prefixset=,
1352 %\c!prefixsegments=1:100,
1353 \c!prefixconnector=.,
1354 \c!numberseparatorset=,
1355 \c!numberconversionset=,

```

```

1356 \c!numberstopper=.,
1357 \c!numbersegments=1]

1358 \definechoice[choice]
1359 \definechoice[inlinechoice]
1360 \tolerant\def\setupinlinechoice[#1]{\setupchoice[inlinechoice][#1]}

1361 \setupinlinechoice[option={text,8,packed,joinedup,nowhite,},
1362     inlinechoice=\s!true,
1363     correctsymbol={\symbol{marksquarecheck}},
1364     inlineleft={ (\nobreak},
1365     inlineright={\nobreak ) },
1366     %lefttext={},
1367     %righttext={},
1368     answerstyle=ttx,
1369     %stopper=,
1370     %showanswer=,% shoule be empty before used
1371     separator={\removeunwantedspaces,\space},
1372 ]

```



## 9 设置 writing 环境

目前该环境只是初步的设计。如果只有同级的多个作文题目，只需要使用 writing 环境即可。但是，当一个作文题目下面有多个子题目时，需要将子题目放到 subwriting 环境当中。

```
\setupwriting[showanswer=true,showpoint=true]
\startwriting[point=45]
  作文题目说明
\startanswer
  参考作文 1
\stopanswer
\stopwriting
```

```
\startwriting
作文题目说明
\startsubwriting[point=450]
  sub 作文题目说明
\startanswer
  参考作文 2
\stopanswer
\stopsubwriting
\startsubwriting[point=4588]
  sub 作文题目说明
\startanswer
  参考作文 3
\stopanswer
\stopsubwriting
\stopwriting
```

9. (45pts) (answer:see example) 作文题目说明	
(answer:参见参考作文。)(45pts)	参考作文 1
10.(5038pts) (answer:see example) 作文题目说明	
1. (450pts) (answer:参见参考作文。)sub 作文题目说明	
(answer:参见参考作文。)(450pts)	参考作文 2
2. (4588pts) (answer:参见参考作文。)sub 作文题目说明	
(answer:参见参考作文。)(4588pts)	参考作文 3

```
1373 \installnamespace      {writing}
1374 \installcommandhandler \???writing {writing} \???writing

1375 \appendtoks
1376   \setuevalue{\e!start\currentwriting}{\startnamedwriting[\currentwriting]}%
1377   \setuevalue{\e!stop \currentwriting}{\stopnamedwriting}%
1378 \to \everydefinewriting
```

```

1379 \tolerant\protected\def\startnamedwriting[#S#1]#* [#S#2]#*%
1380 {\begingroup\env_subwritingfalse
1381 \env_writingtrue\set_envitem_counter
1382 \edef\currentwriting{#1}%
1383 \setupcurrentwriting[#2]%注意, writing 没有单独的 itemgroup 环境
1384 \edef\p_writingtype{\writingparameter{subwriting}}%
1385 \installitemgroupoption[question][writing]%
1386 \startitemgroup[env:question]%
1387 \item[\writingparameter{c!reference}]%
1388 \ifx\p_writingtype\s!true
1389 \env_subwritingtrue\set_envitem_counter
1390 \fi
1391 \set_count_envlevel[writing]%
1392 \showpointoranswer[writing][point]%
1393 \showpointoranswer[writing][answer]%
1394 \save_question_order}

1395 \protected\def\stopnamedwriting{%
1396 \installpointoranswer[writing][point]%
1397 \installpointoranswer[writing][answer]%
1398 \ifenv_subwriting
1399 \installdatacollector\installdatacollectorhelper
1400 \else
1401 \ifnum\c_totalitemnumber>1\else
1402 %即便作文環境, 內部也存在可能多個子題目, 必須只有一個題目時才能執行
1403 \c_totalitemnumber=1\relax
1404 \installdatacollector\installdatacollectorhelper\fi
1405 \fi
1406 \stopitemgroup\endgroup}

1407 \setupwriting
1408 [\c!margin=\zeropoint,
1409 \c!leftmargin=\zeropoint,
1410 \c!rightmargin=\zeropoint,
1411 \c!leftmargindistance=\zeropoint,
1412 \c!rightmargindistance=\zeropoint,
1413 \c!indentnext=\v!yes,
1414 \c!width=1.5\emwidth,
1415 \c!factor=0,
1416 \c!step=.5\emwidth, % deals with broad
1417 \c!distance=\zeropoint,
1418 %\c!align=\v!normal, % definitely not \v!normal !
1419 %\c!symalign=,
1420 %\c!color=,
1421 %\c!indenting=, % untouched if empty
1422 %\c!style=,
1423 \c!marstyle=\v!type,
1424 %\c!symstyle=,
1425 %\c!headstyle=,
1426 %\c!marcolor=,
1427 %\c!symcolor=,

```

```

1428 %\c!headcolor=,
1429 %\c!beforehead=,
1430 \c!symcolor=\itemgroupparameter\c!color,
1431 \c!symstyle=\itemgroupparameter\c!style,
1432 \c!afterhead=\blank,
1433 \c!before=,
1434 \c!inbetween=,
1435 \c!after=,
1436 %\c!stopper=.,
1437 \c!placestopper=\v!yes,
1438 \c!stopper={. },
1439 %\c!inner=,
1440 \c!n=2,
1441 \c!items=4,
1442 \c!levels=10,
1443 \c!lefttext=,
1444 \c!righttext=,
1445 \c!start=1,
1446 \c!packcriterium=\zerocount,
1447 \c!criterium=\v!all, % permits 0 and negative numbers
1448 \c!option={n,packed,joinedup,nowhite,continue},
1449 \c!textdistance=\v!space, % none big medium small <dimension>
1450 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1451 %\c!lasttextseparator=,
1452 \c!command=\strc_itemgroups_default_command,
1453 \c!indenting=\v!next,
1454 %\c!alignsymbol=\v!no,
1455 \c!symbol=\currentitemlevel,
1456 \c!prefix=\v!no,
1457 %\c!prefixstopper=.,
1458 %\c!prefixseparatorset=,
1459 %\c!prefixconversion=,
1460 %\c!prefixconversionset=,
1461 %\c!prefixset=,
1462 %\c!prefixsegments=1:100,
1463 \c!prefixconnector=.,
1464 \c!numberseparatorset=,
1465 \c!numberconversionset=,
1466 \c!numberstopper=.,
1467 \c!numbersegments=1]

1468 \setupwriting
1469 [\c!answer={参见参考作文。},
1470 \c!answerstyle=\ttx,
1471 \c!answercolor=,
1472 \c!answerlabel={\examtexts{answer}},
1473 \c!pointstyle=\ttx,
1474 %\c!pointcolor=,
1475 \c!pointlabel={,\examtexts{point}},
1476 totalanswer={\examtexts{writing}},
1477 ]

```

```
1478 \definewriting[writing]
1479 \definewriting[subwriting]
1480 \def\setupsubwriting{\setupwriting[subwriting]}
1481 \setupsubwriting
1482 [answer={参见参考作文。},
1483   subwriting=true,
1484   pointlabel={},\examtexts{point}},
1485   totalanswer=\writingparameter\c!answer,]
```

## 10 设置 answer 环境

在(v20241023)中，删除了 answer 环境的标签通过 description 来进行设置。整体环境通过 textbackground 环境进行设置。该环境提供了一个特殊的键值 script，该键值主要用于创建答题区域。该键值和 showanswer 键值是互斥的，不应该同时啟用。

`\answer` 是為師生兩版設置的命令。但目前該命令和相關設置還具有諸多不足之處。只需要將該環境置於題目下方，即可獲取當前題目設定的答案，並可以為其編寫答案解析。

```
\startquestion[showanswer=true,answer={answer for \currentitemgroup },point=12]
  The environment is located in: \currentitemgroup 。
  注意：\tex{answer} 可以獲取父環境或同級環境的答案而不必再次設置。
  \startanswer
  \input knuthmath
  \stopanswer
\stopquestion
\startquestion[showanswer=true,point=1]]
  The environment is located in: \currentitemgroup 。
  注意：\tex{answer} 可以獲取父環境或同級環境的答案而不必再次設置。
  \startchoice
    \startcitem{Some Words}\stopcitem
    \startcitem{Some Words}\stopcitem
    \startcitem[*]{Some Words}\stopcitem
    \startcitem{Some Words}\stopcitem
  \stopchoice
  \startanswer
  \input knuthmath
  \stopanswer
\stopquestion
```

11.(answer:answer for env:question:1)The environment is located in: env:question:1。注意：\answer 可以獲取父環境或同級環境的答案而不必再次設置。

(answer:answer for env:question:1)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

12.(answer:C)] The environment is located in: env:question:1。注意：\answer 可以獲取父環境或同級環境的答案而不必再次設置。

A. Some Words      B. Some Words      C. **Some Words**      D. Some Words

(answer:C)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

```
\startquestion[showanswer=true]
  The environment is located in: \currentitemgroup 。
  \startproblem[showanswer=true,left={({,right={})},distance=1em,stopper={}]
  \startpitem[showanswer=true,answer={Pitem 1},point=10]
```

```

    The environment is located in: \currentitemgroup。 \stoppitem
\startanswer
\input knuthmath
\stopanswer
\startpitem[showanswer=true,answer={Pitem 2},point=20]
    The environment is located in: \currentitemgroup。 \stoppitem
\startanswer
\input knuthmath
\stopanswer
\startpitem[showanswer=true,answer={Pitem 3},point=30]
    The environment is located in: \currentitemgroup。 \stoppitem
\startanswer
\input knuthmath
\stopanswer
\stopproblem
\stopquestion

```

13.(answer:Pitem 1)The environment is located in: env:question:1。

(1) (answer:Pitem 1)The environment is located in: env:problem:2。

(answer:Pitem 1)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(2) (answer:Pitem 2)The environment is located in: env:problem:2。

(answer:Pitem 2)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

(3) (answer:Pitem 3)The environment is located in: env:problem:2。

(answer:Pitem 3)

*Many readers will skim over formulas on their first reading of your exposition. Therefore, your sentences should flow smoothly when all but the simplest formulas are replaced by “blah” or some other grunting noise.*

```

1486 \installnamespace {answer}
1487 \installnamespace {answeralternative}
1488 \installnamespace {answerrenderings}

1489 \installcommandhandler \????answer {answer} \????answer
1490 \installcommandhandler \????answeralternative {answeralternative} \????answeralternative

1491 \appendtoks
1492 \frozen\instance\protected\edefcsname \currentanswer\endcsname{\answer_direct_instance
1493 }%
1494 \frozen\protected\instance\edefcsname\!start\currentanswer\endcsname{
1495 \answer_start_instance [\currentanswer]}%
1496 \frozen\protected\instance\letcsname \!stop \currentanswer\endcsname
1497 \answer_stop_instance

```

```

1498 \to \everydefineanswer

1499 \tolerant\protected\def\answer_direct_instance[#S#1]#:#2%
1500 {\begingroup
1501 \env_answertrue
1502 \env_questionfalse \env_problemfalse \env_choicefalse
1503 \env_materialfalse \env_closefalse \env_writingfalse
1504 \env_subwritingfalse \item_pitemfalse \item_fillinfalse
1505 \item_inlinechoicefalse \set_envitem_counter
1506 \edef\currentanswer_bak{\currentanswer}%
1507 \cdef\currentanswer{#1}%
1508 \edef\getanswerbuffer{#2}%
1509 \edef\p_showanswer{\answerparameter\c!showanswer}%
1510 \edef\p_showscript{\answerparameter\c!showscript}%
1511 \edef\p_showpoint {\answerparameter\c!showpoint }%
1512 \ifx\p_showanswer\s!true
1513 \mode_showanswertrue
1514 \mode_showscriptfalse\fi
1515 \ifx\p_showscript\s!true
1516 \mode_showscripttrue
1517 \mode_showanswerfalse\fi
1518 \ifx\p_showpoint \s!true
1519 \mode_showpointtrue\fi
1520 \ifmode_showscript\donetrue\fi
1521 \ifmode_showanswer\donetrue\fi
1522 \ifmode_showpoint \donetrue\fi
1523 \ifdone
1524 \answerparameter\c!before
1525 \dostarttagged\t!answer\currentanswer
1526 \begingroup
1527 \useanswerstyleandcolor\c!style\c!color
1528 \usealignparameter\answerparameter
1529 \edef\currentansweralternative{\answerparameter\c!alternative}%
1530 \ifcsname\currentansweralternativehash\s!parent\endcsname \else
1531 \let\currentansweralternative\s!default
1532 \fi
1533 \usesetupparameter\answerparameter
1534 \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1535 \directsetup\p_renderingsetup
1536 \endgroup\dostoptagged
1537 \answerparameter\c!after
1538 \fi\endgroup}

1539 \permanent\protected\def\startanswer%
1540 {\begingroup
1541 \edef\currentanswer_bak{\currentanswer}%
1542 \lettonothing\currentanswer
1543 \doifelsenextoptionalcs\answer_start_delayed\answer_start_indeed}

1544 \def\answer_start_delayed[#S#1]%
1545 {\doifelseassignmentcs{#1}%
1546 \answer_start_delayed_parameters

```

```

1547     \answer_start_delayed_name
1548     [#1]}

1549 \def\answer_start_delayed_parameters[#S#1]%
1550 {\setupcurrentanswer[#1]%
1551   \answer_start_indeed}

1552 \def\answer_start_delayed_name[#1]%
1553 {\cdef\currentanswer{#1}%
1554   \checkanswerparent
1555   \doifelsenextoptionalcs\answer_start_delayed_parameters\answer_start_indeed}

1556 \protected\tolerant\def\answer_start_instance[#S#1]#*[#S#2]#*%
1557 {\begingroup
1558   \env_answertrue
1559   \env_questionfalse \env_problemfalse \env_choicefalse
1560   \env_materialfalse \env_closefalse \env_writingfalse
1561   \env_subwritingfalse \item_pitemfalse \item_fillinfalse
1562   \item_inlinechoicefalse \set_envitem_counter
1563   \edef\currentanswer_bak{\currentanswer}% 备份之前的答案
1564   % \letnothing\currentanswer%释放currentanswer
1565   \cdef\currentanswer{#1}%
1566   \setupcurrentanswer[#2]%
1567   \grabbufferdatadirect
1568   % {\s!answer:\currentanswer}%
1569   {\s!answer}% unnested, as before
1570   {\e!start\currentanswer}%
1571   {\e!stop \currentanswer}}

1572 \def\answer_start_indeed
1573 {\grabbufferdatadirect
1574   % {\s!answer:\currentanswer}%
1575   {\s!answer}% unnested, as before
1576   {\csstring\startanswer}%
1577   {\csstring\stopanswer}}

1578 \permanent\protected\def\stopanswer{%
1579   \edef\p_showanswer{\answerparameter\c!showanswer}%
1580   \edef\p_showscript{\answerparameter\c!showscript}%
1581   \edef\p_showpoint {\answerparameter\c!showpoint }%
1582   \ifx\p_showanswer\s!true
1583     \mode_showanswertrue
1584     \mode_showscriptfalse\fi
1585   \ifx\p_showscript\s!true
1586     \mode_showscripttrue
1587     \mode_showanswerfalse\fi
1588   \ifx\p_showpoint \s!true
1589     \mode_showpointtrue\fi
1590   \ifmode_showscript\donetrue\fi
1591   \ifmode_showanswer\donetrue\fi
1592   \ifmode_showpoint \donetrue\fi
1593   \ifdone

```



```

1594 \answerparameter\c!before
1595 \dostarttagged\t!answer\currentanswer
1596 \begingroup
1597 \useanswerstyleandcolor\c!style\c!color
1598 \usealignparameter\answerparameter
1599 \edef\currentansweralternative{\answerparameter\c!alternative}%
1600 \ifcsname\currentansweralternativehash\s!parent\endcsname \else
1601 \let\currentansweralternative\s!default
1602 \fi
1603 \usesetupsparameter\answerparameter
1604 \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1605 \directsetup\p_renderingsetup
1606 \tolerant\protected\def\getanswercontent[#1]% only for writing env
1607 {\getbufferdata[\s!answer]}%
1608 % 需要注意，该命令会传递给 dataset，不同于 writing 环境的 currentanswer
1609 % currentanswer 的目的是设置较短的作文答案。
1610 % getanswercontent 则是设置完整的作文答案。
1611 % 如果需要為其他環境獲取解析內容，應該需要重定義命令（answer + currentQID）
1612 \endgroup\dostoptagged
1613 \answerparameter\c!after
1614 \fi\endgroup}

1615 \aliased\let\answer_stop_instance\stopanswer

1616 \permanent\tolerant\protected\def\getanswerbuffer [#1]{\getbufferdata[\s!answer]}
1617 \permanent\tolerant\protected\def\getinlineanswerbuffer[#1]{\inlinebuffer [\s!answer]}

1618 \defineansweralternative
1619 [\s!default]
1620 [\c!renderingsetup=\????answerrenderings:\s!default]

1621 \defineansweralternative
1622 [\s!none]
1623 [\c!renderingsetup=\????answerrenderings:\s!none]

1624 \startsetups[\????answerrenderings:\s!none]
1625 \stopsetups

1626 \startsetups[\????answerrenderings:\s!default]
1627 \setuptextbackground[env:answer]%
1628 [location=paragraph,width=local,
1629 lefttoffset=1ex,righttoffset=1ex,
1630 %topoffset=.5ex,bottomoffset=.5ex,
1631 before={\leftskip=0pt\startnarrower},
1632 after={\stopnarrower},
1633 background=\answerparameter\c!background,
1634 backgroundcolor=\answerparameter\c!backgroundcolor,
1635 corner=\answerparameter\c!corner,
1636 frame=\answerparameter\c!frame,
1637 framecolor=\answerparameter\c!framecolor,
1638 rulethickness=\answerparameter\c!rulethickness,
1639 ]%
1640 \starttextbackground[env:answer]

```

```

1641 \useanswerstyleandcolor\c!style\c!color
1642 \ifenv_material% 可以用来做文章翻译或内容解释,
1643 \getanswerbuffer% 也可以直接放置在文章之后, 或这每一个段落之后
1644 \else
1645 \ifmode_showscript
1646 \answerparameter{scriptcontent}%
1647 \else
1648 \noindent
1649 \showpointoranswer[answer][answer]%
1650 \showpointoranswer[answer][point]%
1651 \ifmode_showanswer
1652 \answerparameter\c!inbetween
1653 \getanswerbuffer
1654 \fi
1655 \fi
1656 \fi
1657 \stoptextbackground
1658 \stopsetups

1659 \tolerant\protected\def\startoldanswer[#1]#:#2\stopoldanswer%
1660 {\begingroup
1661 \env_answertrue\set_envitem_counter
1662 \lettonothing\currentanswer%释放currentanswer
1663 \lettonothing\getanswerbuffer\lettonothing\getinlineanswerbuffer
1664 % currentanswer 命令已经被其他环境定义为答案获取命令,
1665 % 此处的 currentanswer 是定义环境命令, 需要重新释放。
1666 \cdef\currentanswer{#1}%
1667 \setupcurrentanswer[#2]%
1668 \edef\getanswerbuffer{#2}%
1669 \usesetupsparameter\answerparameter
1670 \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1671 \directsetup\p_renderingsetup
1672 \tolerant\protected\xdef\getanswercontent[##1]% only for writing env
1673 {#2}%%
1674 \endgroup}

1675 \startuseMPgraphic{normalframeMP}
1676 draw unitsquare xyscaled (\overlaywidth, \overlayheight);
1677 \stopuseMPgraphic
1678 \defineoverlay [normalframeOL][\useMPgraphic{normalframeMP}]

1679 \def\getanswerforanswer{\datasetvariable{ExamDataset}{\QuestionID}{answer}}

1680 \def\getpointforanswer{% used for answer env to auto get point
1681 \datasetvariable{ExamDataset}{\QuestionID}{point}}

1682 \setupanswer
1683 [answerlabel={{\examtexts{answer}}},
1684 pointlabel={,\examtexts{point}},
1685 pointstyle=\answerparameter\c!style,
1686 pointcolor=\answerparameter\c!color,
1687 answerstyle=\answerparameter\c!style,

```

```

1688 answercolor=\answerparameter\c!color,
1689 style=\ss\it,
1690 before=\blank[halfline],
1691 after=\blank[halfline],
1692 inbetween={\par},
1693 % showscript=true,
1694 scriptcontent={\noindent\ssx\gray Write Answer Here},
1695 \c!alternative=\s!default,
1696 background=normalframeOL,%% for env_answer textbackground
1697 %backgroundcolor=,
1698 %corner=,
1699 frame=on,
1700 %framecolor=,
1701 %rulethickness=,
1702 ]
1703 \defineanswer[answer]

```



## 11 设置 pitem,citem 命令

```

1704 \installnamespace      {examitem}
1705 \installcommandhandler \???examitem {examitem} \???examitem

1706 \defineexamitem[pitem]
1707 \def\setuppitem{\setupexamitem[pitem]}

1708 \setuppitem [%showpoint=,
1709             %point=,
1710             pointstyle=\ttx,
1711             %pointcolor=,
1712             pointlabel={,\examtexts{point}},
1713             answerlabel={,\examtexts{answer},},
1714             %showanswer=,
1715             %answer=,
1716             answerstyle=ttx,
1717             %answerstyle=,
1718             %reference=,
1719             ]

1720 \tolerant\protected\def\startpitem[#1]#*%
1721 {\begingroup
1722  \edef\currentexamitem{pitem}%
1723  \item_pitemtrue\set_envitem_counter
1724  \iffirstargument\setuppitem[#1]\fi%
1725  \startitem[\examitemparameter{pitem}{reference}]%
1726  \set_count_envlevel [pitem]%
1727  \showpointoranswer [examitem][point]%
1728  \showpointoranswer [examitem][answer]%
1729  \useexamitemstyleandcolor\c!textstyle\c!textcolor
1730  }

1731 \def\stoppitem{%
1732  \installpointoranswer[examitem][answer]%
1733  \installpointoranswer[examitem][point]%
1734  \installdatacollector\installdatacollectorhelper
1735  \stopitem\endgroup}

[*](用于标记正确答案)

1736 \defineexamitem[citem]
1737 \def\setupcitem{\setupexamitem[citem]}

1738 \setupcitem[
1739  %style=,
1740  %color=,
1741  ]

1742 \def\tempexamchoicecounter{%
1743 \begingroup% copy from \strc_itemgroups_insert_item_counter_indeed
1744  \setupcounter
1745  [\v_strc_itemgroups_counter]%

```

```

1746   [\c!prefix=\itemgroupparameter\c!prefix,
1747   \c!prefixstopper=\itemgroupparameter\c!prefixstopper,
1748   \c!prefixseparatorset=\itemgroupparameter\c!prefixseparatorset,
1749   \c!prefixconversion=\itemgroupparameter\c!prefixconversion,
1750   \c!prefixconversionset=\itemgroupparameter\c!prefixseparatorset,
1751   \c!prefixset=\itemgroupparameter\c!prefixset,
1752   \c!prefixsegments=\itemgroupparameter\c!prefixsegments,
1753   \c!prefixconnector=\itemgroupparameter\c!prefixconnector,
1754   \c!criterium=\itemgroupparameter\c!criterium,
1755   \c!numberorder=\ifconditional\c_strc_itemgroups_reverse\v!reverse\else\v!normal\fi,
1756   \c!numberconversionset=\v_strc_itemgroups_counter,
1757   \c!numbersegments=\currentitemgroupsegments]%
1758   \normalexpanded{\defineconversionset[\v_strc_itemgroups_counter][\currentitemgroupconversionset
1759   ][\currentitemgroupsymbol]}%
1760   \convertedcounter[\v_strc_itemgroups_counter]%
1761   \endgroup
1762 }

1763 \edef\applychoicestyleandcolor{%
1764   \ifempty\p_answerstyle
1765     \dousestyleparameter{\questionparameter\c!answerstyle}%
1766   \else \dousestyleparameter{\choiceparameter \c!answerstyle}\fi
1767   \ifempty\p_answercolor
1768     \dousecolorparameter{\questionparameter\c!answercolor}%
1769   \else \dousecolorparameter{\choiceparameter \c!answercolor}\fi
1770 }

1771 \protected\def\check_correct_choice#1#2{%
1772   \useexamitemstyleandcolor\c!textstyle\c!textcolor
1773   \edef\p_correctmark_m{*}\edef\p_correctmark_p{#1}%
1774   \edef\p_answerstyle{\choiceparameter\c!answerstyle}%
1775   \edef\p_answercolor{\choiceparameter\c!answercolor}%
1776   \ifx\p_choicetype\s!true% if inlinechoice
1777     \ifx\p_correctmark_p\p_correctmark_m
1778       \ifx\p_correctsymbol\c!default
1779         \startitem[\namedexamitemparameter{citem}\c!reference]%
1780         \bgroup
1781         \ifmode_showanswer\applychoicestyleandcolor\fi
1782         #2\collectanswer{#2}%
1783         \egroup
1784         \stopitem
1785       \else
1786         \bgroup
1787         \ifmode_showanswer\applychoicestyleandcolor
1788         \sym{\ifempty\p_correctsymbol\symbolsquarecheck}\else
1789           \p_correctsymbol\fi}% correct inline choice
1790       \fi
1791       #2\collectanswer{#2}%
1792     \egroup
1793   \fi
1794   \else

```

```

1795 \startitem[\namedexamitemparameter{citem}{c!reference}]#2\stopitem
1796 \fi
1797 \else% 如果不是 inlinechoice
1798 \ifx\p_correctmark_p\p_correctmark_m% 如果标记正确答案
1799 \startitem[\namedexamitemparameter{citem}{c!reference}]%
1800 \bgroup
1801 \ifmode_showanswer\applychoicestyleandcolor\fi
1802 #2
1803 \egroup
1804 \stopitem
1805 \edef\currentanswerindex{\the\c_currentitemnumber}%
1806 \edef\correct_choice_index{\convertnumber{\choiceparameter{numberconversion}}}{
1807 \currentanswerindex}}%
1808 \collectanswer{\correct_choice_index}% collect current normal answer
1809 \else% 必须分离已标记和未标记的答案，来进行正确的样式设置
1810 \startitem[\namedexamitemparameter{citem}{c!reference}]#2\stopitem
1811 \fi%
1812 \fi
1813 \ifx\p_choicetype\s!true
1814 \markcontent[inlinechoice_punctuation]{\choiceparameter{c!separator}}%
1815 \fi}

1816 \protected\def\get_citem_text[#1]{\setbox0=\hbox{#1}%
1817 \d_width_cit = \the\wd0\relax%relax is neccessary
1818 \ifdim \d_width_cit_max > \d_width_cit%
1819 \d_width_cit_max = \d_width_cit_max%
1820 \else \d_width_cit_max = \d_width_cit%
1821 \fi}%%%% 遞歸計算出最大寬度

1822 \tolerant\protected\def\startcitem[#1]*[#2]#:#3\stopcitem{% #1 correct answer
1823 \edef\currentexaminfo{citem}%
1824 \ifsecondargument\setupcitem[#2]\fi% #2 option
1825 \get_citem_text[#3]% #3 choice content
1826 \edef\p_correctmark_p{#1}\edef\p_correctmark_m{*}%
1827 \incrementitemnumber
1828 \check_correct_choice{#1}{#3}%
1829 \removeunwantedspaces
1830 \letnothing\currentexaminfo}

```





## 12 定义同义命令

14.(answer:F,C)

A. a

B. F

C. E

15.(answer:F,sF) (☐ a, ☐ F, ☒ sF)

```

1831 \def\pitem{\dosingleempty\pitem_indeed}
1832 \def\pitem_indeed[#1]#2{
1833   \startpitem[#1]{#2}\stoppitem}

1834 \def\citem{\dosingleempty\citem_indeed}
1835 \def\citem_indeed[#1]#2{%
1836   \startcitem[#1]{#2}\stopcitem}

1837 \tolerant\protected\def\fastchoice[#1]#:#2{
1838   \startchoice[#1]%
1839   \def\citem_temp##1{\startcitem##1\stopcitem}%
1840   \def\correct##1{##1\collectanswer{##1}}%
1841   \processcommacommand[#2]\citem_temp
1842   \stopchoice}

1843 \tolerant\protected\def\fastchoicealt[#1]#:#2{
1844   \startinlinechoice[#1]%
1845   \def\citem_temp##1{\startcitem##1\stopcitem}%
1846   \def\correct##1{##1\collectanswer{##1}}%
1847   \processcommacommand[#2]\citem_temp
1848   \stopinlinechoice}

```

谨慎使用下面的 fragilecitem，他并不安全。很有可能导致错误

```

1849 \bgroup
1850 \obeylines
1851 \gdef\xcitem{\bgroup\obeylines\dosingleempty\doxcitem}%
1852 \gdef\doxcitem[#1]#2
1853   {\egroup%
1854   \doifsomethingelse{#1}%
1855   {\startcitem[*]#2\stopcitem}%
1856   {\startcitem #2\stopcitem}%
1857   }%
1858 \egroup

1859 \let\fragilecitem\xcitem

```



## 13 設置 fillin 命令

The command is recommended to be used within the pitem environment. Of course, since pitem itself also has an answer key, it can be set through this key.

The fillin command mainly relies on the bar command. Basically, modifying the bar command can modify the fillin command. The fillin command has two parameters that refer to textnote: empty and n. empty=yes hides the answer; empty=number shows the number and hides the answer; empty=none shows the answer. n=\* hides the answer, with a length equal to the answer length; n=NUMBER controls the length of the bar.

bar 主要有四種樣式，可以通過 mp 參數進行設置：rules:under:dots rules:under:dash

新增一个 align=autoright 来让 fillin 对齐右方。

```

1860 \installnamespace {fillin}
1861 \installnamespace {fillinalternative}
1862 \installnamespace {fillinrenderings}

1863 \installframedcommandhandler\????fillin {fillin} \????fillin
1864 \installcommandhandler \????fillinalternative {fillinalternative} \????fillinalternative

1865 \setupfillin[%foregroundcolor=,
1866             %before=,after=,
1867             %left=,right=,
1868             %repeat=,mp=
1869             rule=FillinText,% 引用 bar 命令
1870             empty=yes,
1871             continue=yes,
1872             unit=em,
1873             order=foreground,
1874             method=0,
1875             %color=gray,
1876             width=4em,
1877             n=4,
1878             dy=-0.4,
1879             max=3,
1880             offset=-.1,
1881             rulethickness=.05,
1882             style=\ss,]

1883 \tolerant\protected\def\fillin[#1]#:#2{%
1884 \beginngroup
1885 \item_fillintrue\null
1886 \global\advance\c_fillinnumber by 1\relax
1887 \iffirstargument\setupfillin[#1]\fi
1888 \edef\currentfillinanswer{#2}%
1889 \edef\p_number{\number\c_fillinnumber}%
1890 \edef\p_align{\fillinparameter\c!align}%
1891 \edef\currentfillinalternative{\fillinparameter\c!alternative}%
1892 \ifcsname\currentfillinalternativehash\s!parent\endcsname\else
1893 \let\currentfillinalternative\s!default
1894 \fi

```

```

1895 \usesetupparameter\fillinparameter
1896 \edef\p_renderingsetup{\fillinalternativeparameter\c!renderingsetup}%
1897 \ifx\p_align\c!autoright
1898 \unskip\nobreak\hfill
1899 \penalty50\hskip2em\hbox{}\nobreak\hfill
1900 \fi
1901 \usefillinstyleandcolor\c!style\c!color
1902 \fillinparameter\c!before
1903 \fillinparameter\c!left
1904 \directsetup\p_renderingsetup
1905 \fillinparameter\c!right
1906 \fillinparameter\c!after
1907 \ifx\p_align\c!autoright
1908 \parfillskip=0pt \finalhyphendemerits=0 \par\fi
1909 \edef\currentanswer{\#2\collectanswer{\#2}}%
1910 \edef\currentfillinanswer{\collectedanswer}%
1911 \ifempty\currentfillinanswer
1912 \edef\currentanswer{\currentprevanswer}% 讓 fillin 繼承前一個答案
1913 \else\edef\currentanswer{\collectedanswer}%
1914 \fi\aftergrouped{\xdef\currentprevanswer{\collectedanswer}}%
1915 \endgroup}

1916 \definefillinalternative
1917 [\s!default]
1918 [\c!renderingsetup=????fillinrenderings:\s!default]

1919 \definefillinalternative
1920 [framed]
1921 [\c!renderingsetup=????fillinrenderings:framed]

1922 \startsetups[????fillinrenderings:\s!default]
1923 \edef\currentbar{\fillinparameter\c!rule}%
1924 \setupbar[\currentbar][%
1925 rulethickness=\fillinparameter{rulethickness},
1926 foregroundcolor=\fillinparameter{foregroundcolor},
1927 foregroundstyle=\fillinparameter{style},
1928 continue=\fillinparameter{continue},
1929 unit=\fillinparameter{unit},
1930 order=\fillinparameter{order},
1931 method=\fillinparameter{method},
1932 dy=\fillinparameter{dy},
1933 max=\fillinparameter{max},
1934 left=\fillinparameter{left},
1935 right=\fillinparameter{right},
1936 repeat=\fillinparameter{repeat},
1937 color=\fillinparameter{color},
1938 offset=\fillinparameter{offset},
1939 empty=\fillinparameter{empty},
1940 mp=\fillinparameter{mp}]%
1941 \edef\p_n{\fillinparameter\c!n}%
1942 \edef\p_empty{\fillinparameter\c!empty}%
1943 \ifx\p_n\wildcardsymbol

```

```

1944 \ifmode_showanswer\setupfillin[empty=none]\fi
1945 \edef\p_empty{\fillinparameter\c!empty}%
1946 \ifx\p_empty\v!number
1947 \inlinebar[\currentbar]\bgroup
1948 \interwordspacesbefore2
1949 \zwnj\runninghbox{\resetbar\p_number}\zwnj
1950 \interwordspacesafter2
1951 \egroup
1952 \else
1953 \inlinebar[\currentbar]\bgroup
1954 \wordboundary\zwnj\currentfillinanswer\zwnj
1955 \egroup
1956 \fi
1957 \else
1958 \ifmode_showanswer\setupfillin[empty=none]\fi
1959 \edef\p_empty{\fillinparameter\c!empty}%
1960 \inlinebar[\currentbar]\bgroup
1961 \wordboundary\scratchcounter\numexpr\p_n\relax
1962 \ifx\p_empty\v!yes
1963 \interwordspacesbefore\scratchcounter
1964 \interwordspacesafter\scratchcounter
1965 \else\ifx\p_empty\v!number
1966 \interwordspacesbefore\scratchcounter
1967 \zwnj\runninghbox{\resetbar\p_number}\zwnj
1968 \interwordspacesafter\scratchcounter
1969 \else\ifx\p_empty\v!none
1970 \scratchcounter\numexpr\p_n/\plustwo\relax
1971 \interwordspacesbefore\scratchcounter
1972 \zwnj{{\currentfillinanswer}}\zwnj
1973 \interwordspacesafter\scratchcounter
1974 \else\currentfillinanswer\fi\fi
1975 \fi
1976 \egroup
1977 \fi
1978 \stopsetups

1979 \startsetups[\????fillinrenderings:framed]
1980 \edef\p_n{\fillinparameter\c!n}%
1981 \edef\p_empty{\fillinparameter\c!empty}%
1982 \ifx\p_n\wildcardsymbol
1983 \ifmode_showanswer\setupfillin[empty=none]\fi
1984 \edef\p_empty{\fillinparameter\c!empty}%
1985 \ifx\p_empty\v!number
1986 \inheritedfillinframed\bgroup
1987 \interwordspacesbefore2
1988 \zwnj\p_number\zwnj
1989 \interwordspacesafter2
1990 \egroup
1991 \else
1992 \inheritedfillinframed\bgroup
1993 \wordboundary\zwnj\currentfillinanswer\zwnj

```

```

1994     \egroup
1995     \fi
1996   \else
1997     \ifmode_showanswer\setupfillin[empty=none]\fi
1998     \edef\p_empty{\fillinparameter\c!empty}%
1999     \wordboundary\scratchcounter\numexpr\p_n\relax
2000     \ifx\p_empty\v!yes
2001       \inheritedfillinframed\bgroup
2002       \interwordspacesbefore\scratchcounter
2003       \interwordspacesafter\scratchcounter
2004       \egroup
2005     \else\ifx\p_empty\v!number
2006       \inheritedfillinframed\bgroup
2007       \interwordspacesbefore\scratchcounter
2008       \zwnj\p_number\zwnj
2009       \interwordspacesafter\scratchcounter
2010       \egroup
2011     \else\ifx\p_empty\v!none
2012       \inheritedfillinframed\bgroup
2013       \scratchcounter\numexpr\p_n/\plustwo\relax
2014       \interwordspacesbefore\scratchcounter
2015       \zwnj{{\currentfillinanswer}}\zwnj
2016       \interwordspacesafter\scratchcounter
2017       \egroup
2018     \else\currentfillinanswer\fi\fi
2019   \fi
2020 \fi
2021 \stopsetups

```

## 14 設置 material 環境

顧名思義，\material 環境用來放置大段文本材料。該環境比較特殊，它設置了多個子實例來進行更完善的設置。除了 \setupmaterial[number] 這個實例繼承了 \setupcounter 的全部鍵值之外，其他實例都是新定義的鍵值。

這些實例分別是：

- \setupmaterial[number] 設置該環境標題的**序號**；
- \setupmaterial[title] 設置該環境的**標題**相關的樣式；
- \setupmaterial[author] 設置該環境文章的**作者**相關的樣式；
- \setupmaterial[source] 設置該環境文章的**具體來源**的相關樣式。
- \setupmaterial[indicator] 設置該環境文章的**畫線序號文字**的相關樣式。

此外，title,author,source 的名稱是通過 \setupmaterial 來直接設置。此外，該環境具有一個特殊的子命令 \indicator 來標記文章中的提問的部分並進行添加數字標識—（一）畫線文字。因此，\setupmaterial 還具有一個鍵值 indicator 通過 indicator=reset 對 indicator 進行重置，每當開啓一個新的 material 環境。通過 indicator=continue 對 indicator 取消重置，它將持續計數。當然，也可以直接通過 \setupmaterial[indicator][reset=true] 來啓用重新計數

以上所有實例都具有以下鍵值： before after align style color 此外，\setupmaterial 可以通过 spacebefore 和 spaceafter 来控制环境前后的垂直距离

notice , if you want change [start = number] after a chapter , you should use \resetcount[COUNTER\_NAME] to reset current counter to the number of start you've setted. otherwise, you need put [start = number] before the chapter you want to reset the counter.

```
\setupmaterial[title][color=green]
\startmaterial[title={Knuth},author={Mos},source={Yelu}]
\input knuth
\stopmaterial
\startmaterial[indent=no]
\startcolumns[n=2,separator=rule]
\input knuth
\indicator{mark 1}
\indicator{mark 1}
\indicator{mark 1}
\column
\startanswer
\bold{\ssa Here is answer.}
\input knuth
\stopanswer
\stopcolumns
\stopmaterial

\startquestion
\indicator{mark 1}
\stopquestion
\startquestion
\indicator{mark 1}
\stopquestion
\startquestion
\indicator{mark 1}
\stopquestion
```

(一)Knuth

Mos

Thus, I came to the conclusion that the designer of a new system must not only be the implementer and first large-scale user; the designer should also write the first user manual.

The separation of any of these four components would have hurt T<sub>E</sub>X significantly. If I had not participated fully in all these activities, literally hundreds of improvements would never have been made, because I would never have thought of them or perceived why they were important.

But a system cannot be successful if it is too strongly influenced by a single person. Once the initial design is complete and fairly robust, the real test begins as people with many different viewpoints undertake their own experiments.

Yelu

(二)

Thus, I came to the conclusion that the designer of a new system must not only be the implementer and first large-scale user; the designer should also write the first user manual.

The separation of any of these four components would have hurt T<sub>E</sub>X significantly. If I had not participated fully in all these activities, literally hundreds of improvements would never have been made, because I would never have thought of them or perceived why they were important.

But a system cannot be successful if it is too strongly influenced by a single person. Once the initial design is complete and fairly robust, the real test begins as people with many different viewpoints undertake their own experiments. (一) mark 1 (二)

mark 1 (三) mark 1

16. (一) mark 1

17. (二) mark 1

18. (三) mark 1

```
2022 \installnamespace {material}
2023 \installcommandhandler \???material {material} \???material
2024 \installcounterassociation {material}

2025 \appendtoks
2026 \registermaterialcounter\currentmaterial
2027 \definecounter[\currentmaterial]%
2028 \to \everydefinematerial

2029 \appendtoks
2030 \synchronizematerialcounters
2031 \to \everysetupmaterial

2032 \definematerial [material]
2033 \definematerial [number]
```



```

2034 \definematerial [indicator]
2035 \definematerial [indicator_helper][indicator]

2036 \setupmaterial [\c!align=center,
2037             \%c!color=,
2038             \%c!style=,
2039             \%c!spacebefore=1em,
2040             \%c!spaceafter=1em,
2041             \%c!title=,
2042             \%c!author=,
2043             \%c!source=,
2044             \%c!indicator=continue,
2045             indent={first,always,2em},]
2046 \setupmaterial [\c!number] [\c!before={({,\c!after=})},
2047             \%c!prefix=no,\c!start=0,
2048             \%c!style=\namedmaterialparameter\c!title\c!style,
2049             \%c!color=\namedmaterialparameter\c!title\c!color,
2050             \%c!numberconversion=cn,\c!way=\v!by\v!chapter]
2051 \setupmaterial [\c!title] [\c!style=\ss\tfa,\c!color=,\c!align=center,
2052             \%c!before=,]
2053 \setupmaterial [\c!author] [\c!style=\tf,\c!color=,\c!align=flushright]
2054 \setupmaterial [\c!source] [\c!before=\par,\c!align=flushright]
2055 \setupmaterial [indicator]
2056             [\c!style=\ssbf,
2057             \%c!color=,
2058             \%c!before={\;(\nobreak\,\nobreak},
2059             \%c!after={\nobreak\,\nobreak)\;},
2060             \%c!prefix=no,
2061             \%c!numberconversion=cn,
2062             \%c!type=line,
2063             \%c!reset=false,
2064             \%c!method=0,
2065             \%c!continue=\v!yes,
2066             \%c!empty=,
2067             \%c!offset=-0.3,
2068             \%c!dy=-0.4,
2069             \%c!max=3,
2070             \%c!rulethickness=.1,
2071             \%c!order=\v!foreground,
2072             \%c!unit=ex,]

2073 \def\material_counter_parameter#1%
2074 {\begingroup
2075   \def\currentmaterial{#1}%
2076   \setupalign[\namedmaterialparameter\c!title\c!align]%
2077   \usematerialstyleandcolor\c!style\c!color
2078   \namedmaterialparameter\currentmaterial\c!before
2079   \incrementcounter[#1]\convertedcounter[#1]%
2080   \namedmaterialparameter\currentmaterial\c!after
2081   \endgroup}

2082 \def\material_parameter#1%creat new element in material

```

```

2083  {{\begingroup
2084    \def\currentmaterial{#1}%
2085    \setupalign[\namedmaterialparameter\currentmaterial\c!align]%
2086    \usematerialstyleandcolor\c!style\c!color
2087    \namedmaterialparameter\currentmaterial\c!before
2088    \rootmaterialparameter\currentmaterial
2089    \namedmaterialparameter\currentmaterial\c!after
2090    \par\endgroup}}

2091  \tolerant\protected\def\startmaterial[#1]*{\begingroup%
2092    \letnothing\currentmaterial%%
2093    \edef\p_indicator{\rootmaterialparameter\c!indicator}%
2094    \edef\p_reset{\namedmaterialparameter{indicator}\c!reset}%
2095    \processaction[\p_indicator][
2096      reset=>\let\indicator_reset_helper\resetindicators,
2097      continue=>\continue_countertrue\let\indicator_reset_helper\relax,]%
2098    \processaction[\p_reset][
2099      true=>\let\indicator_reset_helper\resetindicators,
2100      false=>\continue_countertrue\let\indicator_reset_helper\relax,]%
2101    \env_materialtrue\set_envitem_counter%
2102    \iffirstargument\setupcurrentmaterial[#1]\fi
2103    \indicator_reset_helper
2104    \usematerialstyleandcolor\c!style\c!color%
2105    \blank[\rootmaterialparameter\c!spacebefore]%
2106    \startalignment[\rootmaterialparameter\c!align]%
2107      \material_counter_parameter\c!number
2108      \material_parameter\c!title
2109      \material_parameter\c!author
2110    \stopalignment
2111    \blank[\rootmaterialparameter\c!spaceafter]%
2112    \setupindenting[\rootmaterialparameter{indent}]]}

2113  \def\stopmaterial{%
2114    \material_parameter\c!source
2115    \indicator_reset_helper
2116    \endgroup}

2117  \tolerant\protected\def\indicator[#1]#:#2%
2118    {\begingroup\def\currentmaterial{indicator}%
2119    \setupmaterial[\currentmaterial][#1]%
2120    \edef\indicator_type{\namedmaterialparameter\currentmaterial\c!type}%
2121    \edef\indicator_reset{\namedmaterialparameter\currentmaterial\c!reset}%
2122    \namedmaterialparameter\currentmaterial\c!style
2123    \setupbars
2124      [\c!method=\namedmaterialparameter\currentmaterial\c!method,% new: 0=center nested,
2125      1=stack nested
2126      \c!continue=\namedmaterialparameter\currentmaterial\c!continue,
2127      \c!empty=\namedmaterialparameter\currentmaterial\c!empty, % new: yes = hide text
2128      \c!offset=\namedmaterialparameter\currentmaterial\c!offset, % upwards, replaces:
2129      topoffset bottomoffset
2130      \c!dy=\namedmaterialparameter\currentmaterial\c!dy,
2131      \c!max=\namedmaterialparameter\currentmaterial\c!max,

```

```

2132 \c!style=\namedmaterialparameter\currentmaterial\c!style,
2133 \c!rulethickness=\namedmaterialparameter\currentmaterial\c!rulethickness,
2134 \c!order=\namedmaterialparameter\currentmaterial\c!order,
2135 \c!unit=\namedmaterialparameter\currentmaterial\c!unit, % so now we are relative
2136 \c!color=\namedmaterialparameter\currentmaterial\c!color]% replaces: rulecolor
2137 \processaction[\indicator_type]%
2138 [line=>\let\indicator_type\underbar,%
2139 none=>\let\indicator_type\relax]%
2140 \usematerialstyleandcolor\c!style\c!color%
2141 \indicator_type\bgroup
2142 \namedmaterialparameter\currentmaterial\c!before%
2143 \ifmode_debug
2144 \ifenv_material\color[red]{material}\else\color[red]{\currentitemgroup}\fi
2145 \ifcontinue_counter\color[red]{continue}\fi
2146 \fi
2147 \ifenv_material
2148 \incrementcounter[\currentmaterial]%
2149 \convertedcounter[\currentmaterial]%
2150 \else
2151 \incrementcounter[indicator_helper]%
2152 \convertedcounter[indicator_helper]%
2153 \fi
2154 \namedmaterialparameter\currentmaterial\c!after
2155 \penalty0\relax
2156 #2\egroup
2157 \endgroup}

2158 \def\indicators{%% TODO 增強該命令的用法
2159 \ifenv_material
2160 \incrementcounter[indicator]%
2161 \convertedcounter[indicator]%
2162 \else
2163 \incrementcounter[indicator_helper]%
2164 \convertedcounter[indicator_helper]%
2165 \fi}
2166 \def\resetindicators{\setcounter[indicator][0]%
2167 \setcounter[indicator_helper][0]}

```



## 15 Chinese Verse

```

2168 \installnamespace      {verse}
2169 \installcommandhandler \????verse      {verse}      \????verse
2170 \def\c!verse{verse}
2171 \def\c!skip{skip}

2172 \defineverse[\c!title]
2173 \defineverse[\c!author]
2174 \setupverse      [%title=,author=,source={KKK},skip=both,
2175                  \c!sample={一三三四五六七}, \c!skip=\v!left]
2176 \setupverse [\c!title] [\c!align=center, \c!style=bf,\c!skip=\v!both,\c!before=,\c!after=
2177 ]
2178 \setupverse [\c!author][\c!align=flushright,\c!style=it,\c!skip=\v!both,\c!before=,
2179 \c!after=]
2180 \setupverse [\c!source][\c!align=flushright,\c!style=it,\c!skip=\v!both,\c!before=,
2181 \c!after=]

2182 \newdimen\d_temp_leftskip
2183 \newdimen\d_temp_maxwidth
2184 \def\c_verse_skip{%
2185 \ifx\verse_skip\v!left\leftskip\d_temp_leftskip\relax\fi
2186 \ifx\verse_skip\v!right\rightskip\d_temp_leftskip\relax\fi
2187 \ifx\verse_skip\v!both
2188 \leftskip\d_temp_leftskip\relax
2189 \rightskip\leftskip\relax
2190 \fi}

2191 \def\verse_element#1%
2192 {\begingroup%
2193 \edef\currentverse{#1}%
2194 \edef\verse_skip{\namedverseparameter\currentverse\c!skip}%
2195 \c_verse_skip
2196 \namedverseparameter\currentverse\c!before
2197 \startalignment[\namedverseparameter\currentverse\c!align]
2198 \useversestyleandcolor\c!style\c!color
2199 \rootverseparameter\currentverse
2200 \stopalignment
2201 \namedverseparameter\currentverse\c!after
2202 \endgroup}

2203 \tolerant\protected\def\startverse[#1]#*%
2204 {\begingroup\parindent0pt\relax\let\\\par
2205 \iffirstargument\setupverse[#1]\fi
2206 \edef\verse_skip{\verseparameter\c!skip}%
2207 \setwidthof{\verseparameter\c!sample}\to\d_temp_maxwidth
2208 \d_temp_leftskip=\dimexpr.5\textwidth-.5\d_temp_maxwidth\relax
2209 \ifx\verse_skip\v!none\relax\else
2210 \c_verse_skip
2211 \fi
2212 \verseparameter\c!before
2213 \verse_element \c!title

```

```

2214 \verse_element \c!author
2215 \useversestyleandcolor\c!style\c!color
2216 \ifx\verse_skip\!none
2217 \startalignment[\verseparameter\c!align]\fi}

2218 \def\stopverse{\par\ifx\verse_skip\!none\stopalignment\fi
2219 \leftskip0pt\rightskip\leftskip\relax
2220 \verse_element\c!source\verseparameter\c!after\endgroup}

```

## 16 Multilingual support

lipsum

亂數假文

亂數假文

ダミーテキスト





## 17 设置 close 环境

close 環境近乎是單獨設計的。還需要改進：直接使用 itemgroup 重置，該環境主要使用兩個命令：`\startclose` 和 `\stopclose` 用來創建該環境，`\closechoice` 用來標記環境內的選項，該命令隨行文放置即可。選項無須再次在文章後放置，`\stopclose` 會自行放置。因為 close 環境的子項目 `\closechoice` 是通過 choice 環境設置的。因此，可以通過 `[*]` 來標記正確答案。

close 環境同樣繼承了 `answer` 的鍵值。此外設置了 `reset` 鍵來選擇是否每一篇重置選項的題號，其他的鍵值：`barcolor` `barstyle` 設置下劃線樣式 `before` `after` `style` `color` 用於整體環境 `width` `frame` `stopper` `distance` 用於選項前題號樣式

```
\startclose
On Oct. 11, hundreds of runners competed in a cross-country race in Minnesota.
Melanie Bailey should have \closechoice[designed,followed,changed,finished] the
course earlier than she did. Her \closechoice[delay,chance,trouble,excuse] came
because she was carrying a \closechoice[judge,volunteer,classmate,competitor]
across the finish line.

As reported by a local newspaper, Bailey was more than two-thirds of the way
through her \closechoice[race,school,town,training] when a runner in front of
her began crying in pain. She \closechoice[agreed,returned,stopped,promised]
to help her fellow runner, Danielle Lenoue. Bailey took her arm to see if she
could walk forward with \closechoice[courage,aid,patience,advice] . She couldn't.
Bailey then \closechoice[went away,stood up,stepped aside,bent down] to let Lenoue
climb onto her back and carried her all the way to the finish line, then another
300 feet to where Lenoue could get \closechoice[medical,public,constant,equal] attention.

Once there, Lenoue was \closechoice[interrupted,assessed,identified,appreciated]
and later taken to a hospital, where she learned that she had serious injuries in
one of her knees. She would have struggled with extreme
\closechoice[hunger,pain,cold,tiredness]
to make it to that aid checkpoint without Bailey's help.
\stopclose
```

On Oct. 11, hundreds of runners competed in a cross-country race in Minnesota. Melanie Bailey should have \_\_\_\_ 19 \_\_\_\_ the course earlier than she did. Her \_\_\_\_ 20 \_\_\_\_ came because she was carrying a \_\_\_\_ 21 \_\_\_\_ across the finish line.

As reported by a local newspaper, Bailey was more than two-thirds of the way through her \_\_\_\_ 22 \_\_\_\_ when a runner in front of her began crying in pain. She \_\_\_\_ 23 \_\_\_\_ to help her fellow runner, Danielle Lenoue. Bailey took her arm to see if she could walk forward with \_\_\_\_ 24 \_\_\_\_ . She couldn't. Bailey then \_\_\_\_ 25 \_\_\_\_ to let Lenoue climb onto her back and carried her all the way to the finish line, then another 300 feet to where Lenoue could get \_\_\_\_ 26 \_\_\_\_ attention. Once there, Lenoue was \_\_\_\_ 27 \_\_\_\_ and later taken to a hospital, where she learned that she had serious injuries in one of her knees. She would have struggled with extreme \_\_\_\_ 28 \_\_\_\_ to make it to that aid checkpoint without Bailey's help.

- |                   |              |                  |                |
|-------------------|--------------|------------------|----------------|
| 19.A. designed    | B. followed  | C. changed       | D. finished    |
| 20.A. delay       | B. chance    | C. trouble       | D. excuse      |
| 21.A. judge       | B. volunteer | C. classmate     | D. competitor  |
| 22.A. race        | B. school    | C. town          | D. training    |
| 23.A. agreed      | B. returned  | C. stopped       | D. promised    |
| 24.A. courage     | B. aid       | C. patience      | D. advice      |
| 25.A. went away   | B. stood up  | C. stepped aside | D. bent down   |
| 26.A. medical     | B. public    | C. constant      | D. equal       |
| 27.A. interrupted | B. assessed  | C. identified    | D. appreciated |
| 28.A. hunger      | B. pain      | C. cold          | D. tiredness   |

```

2221 \installnamespace      {close}
2222 \installcommandhandler \????close {close} \????close

2223 \setupclose[reset=false,
2224     %barstyle=,
2225     %barcolor=,
2226     answerstyle=ttx,
2227     pointstyle=ttx,
2228     %answerstyle=,
2229     width=1.5em,% set order width
2230     answerwidth=4em,
2231     frame=off,% set order frame
2232     stopper=.,% set order stopper
2233     distance=.5em,% set order distance
2234     after=\blank[halflin]]

2235 \c_closetest=1\relax
2236 \tolerant\protected\def\closebar#1{
2237   \startbar[underbar]%
2238   \scratchcounter\numexpr16/\plustwo\relax
2239   \interwordspacesbefore\scratchcounter
2240   \zwj\runninghbox{\resetbar{#1}}\zwj
2241   \interwordspacesafter\scratchcounter
2242   \stopbar}

2243 \def\closechoice[#1]{% 這是用戶命令，用來記錄選項(定義選項列表)
2244   \expandafter\def\csname close:\romannumerals\c_closetest\endcsname{#1}%
2245   % c_closetest 用於標記選項列表，會隨著選項題目增加，無論是否啓用重置，該計數器都會記錄並自增
2246   % 在生成選項序列時，該計數器可以進行：(1) 是否設置了選項 (2) 遞增出選項序列

```

```

2247 % 該計數器屬於局域，每篇文章都會重置回 1。
2248 \ifclose_counter_reset
2249 \begingroup
2250 \setupbar[underbar]%
2251 [color=\closeparameter{barcolor},
2252 mp=\closeparameter{barstyle}]%
2253 \closebar{\number\c_closetest}%
2254 \endgroup
2255 \else
2256 \begingroup\let\par\relax% 將其封裝在局域，避免 par 命令失效
2257 \setupbar[underbar]%
2258 [color=\closeparameter{barcolor},
2259 mp=\closeparameter{barstyle}]%
2260 \startitemgroup[env:question][n,continue,text,nostopper]%
2261 [lefttext=\closebar,righttext=]%
2262 \item \save_question_order
2263 \stopitemgroup
2264 \endgroup
2265 \fi\advance\c_closetest by 1\relax}

2266 \def\close_order{%選項前的序號樣式，序號通過 tempa 設定
2267 \unskip\noindent
2268 \inframed[width=\closeparameter{c!width},
2269 frame=\closeparameter{c!frame},
2270 align=flushleft,
2271 foreground=color,
2272 foregroundcolor=\closeparameter{c!color},
2273 foregroundstyle=\closeparameter{c!style}]{%
2274 \convertnumber{n}{\number\c_closetest_temp}%
2275 \closeparameter{c!stopper}%
2276 \hskip\closeparameter{c!distance}\relax
2277 \global\advance\c_closetest_temp by 1\relax
2278 \unskip}

2279 \def\docloseitem#1{\startcitem #1\stopcitem}
2280 \def\placeclosechoice{%
2281 \scratchcounter\numexpr\c_closetest-1\relax
2282 \edef\p_showanswer{\closeparameter{c!showanswer}}%
2283 \edef\p_showpoint {\closeparameter{c!showpoint }}%
2284 \ifx\p_showanswer\s!true
2285 \mode_showanswertrue
2286 \mode_showscriptfalse\fi
2287 \ifx\p_showpoint \s!true
2288 \mode_showpointtrue\fi
2289 \c_closetest=1\relax%
2290 \dorecurse{\number\scratchcounter}{% start recurse
2291 \hbox{\hsize\textwidth
2292 \ifmode_showanswer\else\scratchdimen\zeropoint
2293 \ifmode_showpoint \else\scratchdimen\zeropoint\fi\fi
2294 \ifmode_showanswer
2295 \scratchdimen=\closeparameter{answerwidth}\relax\fi

```

```

2296 \ifmode_showpoint
2297 \scratchdimen=\closeparameter{answerwidth}\relax\fi
2298 \scratchdimenone=\closeparameter{c!width}\relax
2299 \set_count_envlevel[close]%
2300 \vtop{\hsize\scratchdimen
2301 \ifmode_showanswer\edef\temp_showanswer{}\fi
2302 \ifmode_showpoint \edef\temp_showpoint{ }\fi
2303 \showpointoranswer[close][point]%
2304 \showpointoranswer[close][answer]%
2305 \ifdefined\temp_showanswer\mode_showanswertrue\fi
2306 \ifdefined\temp_showpoint \mode_showpointtrue \fi}
2307 \ifdefined\currentprevpoint\else
2308 \edef\currentprevpoint {\closeparameter{c!point}}\fi
2309 \ifdefined\currentprevanswer
2310 \edef\currentprevanswer{\closeparameter{c!answer}}\else
2311 \edef\currentprevanswer{\closeparameter{c!answer}}\fi
2312 \edef\currentitemnumber{\the\c_closetest_temp}%
2313 \edef\currentuserorder{%
2314 \currentitemnumber%放置在這裡才能正確獲取題號
2315 \ifnum\rawcountervalue[Unicode_botlevel]=0\else% 抽出 order 定義,
2316 (\rawcountervalue[Unicode_botlevel])\fi}% 因為該環境沒有上級 question 環境
2317 \vtop{\hsize\scratchdimenone\close_order}
2318 \vtop{\hsize=\dimexpr\textwidth-\scratchdimen-\scratchdimenone\relax
2319 \startchoice
2320 \processcommaccommand[\csname close:\romannumerals\c_closetest\endcsname]\docloseitem%
2321 \stopchoice
2322 }%
2323 }%
2324 \advance\c_closetest by 1\relax}% stop reucrse
2325 \c_closetest=1\relax%
2326 }

2327 \tolerant\protected\def\startclose[#1]#*%
2328 {\begingroup
2329 \env_closetrue\set_envitem_counter
2330 \iffirstargument\setupclose[#1]\fi
2331 \edef\p_reset{\closeparameter{c!reset}}%
2332 \ifx\p_reset\s!true\close_counter_resettrue
2333 \else\close_counter_resetfalse\fi
2334 \restore_question_order
2335 \ifclose_counter_reset% 如果重置，則序號起自 1
2336 \c_closetest_temp=1\relax% tempa 标记文章内的序号和选项前的序号
2337 \else% 否則，恢復上一問題序號，並遞增1.
2338 \c_closetest_temp=\rawcountervalue[strc_close_counter]%
2339 \c_closetest_temp=\numexpr\c_closetest_temp+1\relax
2340 \fi
2341 \closeparameter{c!before
2342 \useclosestyleandcolor{c!style\c!color}

2343 \def\stopclose{%
2344 \closeparameter{c!after

```

```
2345 \placeclosechoice  
2346 \endgroup}
```



## 18 設置 optclose 環境

該環境是 close 環境的變體，但目前並未對該環境進行更多的設置。該環境的主要命令有兩個：`\startoptclose` 和 `\stopoptclose` 用來創建該環境，`\ocitem` 用來標記環境內的選項，該命令隨行文放置即可。`\ocitem[answer=blabla]blablabla`

此外，還有一個特殊的命令，`\specialocitem` 僅具有 `answer` 鍵值。可以通過 `\setupocitem` 來調整該命令的樣式。該命令標記答案，且無須任何環境包裹。

```
\startoptclose
The latest \ocitem[answer=engineering]{engineer} techniques are applied to create
this protective \ocitem[answer=functional]{function} structure that is also
beautiful. The design features ten steel "sepals (萼片)" made of glass and
aluminium (铝). These sepals open on warm days \ocitem[answer=to give]{give} the
inside plants sunshine and fresh air. In cold weather, the structure stays
\ocitem[answer=closed]{close} to protect the plants.
```

```
Further, the Silk Route Garden around the greenhouse \ocitem[answer=walks]{walk}
visitors through a journey influence by the ancient Silk Road, by which silk as
well as many plant species came to Britain for \ocitem[answer=the]{} first time.
These plants included modern Western \ocitem[answer=favorites]{favourite} such as
rosemary, lavender and fennel. The garden also contains a winding path that guides
visitors through the twelve regions of the Silk Road. The path offers over 300
plant species for visitors to see, too.
```

```
The Glasshouse stands \ocitem[answer=as]{} a great achievement in contemporary
design, to house the plants of the southwestern part of China at the end of a path
retracing (追溯) the steps along the Silk Route \ocitem[answer=which that]{}
brought the plants from their native habitat in Asia to come to define much of the
\ocitem[answer=richness]{rich} of gardening in England.
\stopoptclose
```

The latest \_\_\_\_ 29 \_\_\_\_ (engineer) techniques are applied to create this protective \_\_\_\_ 30 \_\_\_\_ (function) structure that is also beautiful. The design features ten steel "sepals(萼片)" made of glass and aluminium (铝). These sepals open on warm days \_\_\_\_ 31 \_\_\_\_ (give) the inside plants sunshine and fresh air. In cold weather, the structure stays \_\_\_\_ 32 \_\_\_\_ (close) to protect the plants.

Further, the Silk Route Garden around the greenhouse \_\_\_\_ 33 \_\_\_\_ (walk) visitors through a journey influence by the ancient Silk Road, by which silk as well as many plant species came to Britain for \_\_\_\_ 34 \_\_\_\_ first time. These plants included modern Western \_\_\_\_ 35 \_\_\_\_ (favourite) such as rosemary, lavender and fennel. The garden also contains a winding path that guides visitors through the twelve regions of the Silk Road. The path offers over 300 plant species for visitors to see, too.

The Glasshouse stands \_\_\_\_ 36 \_\_\_\_ a great achievement in contemporary design, to house the plants of the southwestern part of China at the end of a path retracing ( 追溯 ) the steps along the Silk Route \_\_\_\_ 37 \_\_\_\_ brought the plants from their native habitat in Asia to come to define much of the \_\_\_\_ 38 \_\_\_\_ (rich) of gardening in England.

```
2347 \definequestion[optclose]
2348 \definequestion[specialocitem]
2349 \def\setupoptclose{\setupquestion[optclose]}
2350 \def\setupspecialoptclose{\setupquestion[specialocitem]}
```

```

2351 \setupquestion[optclose]
2352 [option={n,continue,text,nostopper},
2353 lefttext=\closebar,
2354 righttext=,
2355 reset=false,
2356 showanswer=false,
2357 showpoint=false,
2358 class=optclose,]

2359 \setupquestion[specialocitem]
2360 [option={n,continue,text,nostopper},
2361 lefttext=\closebar,
2362 righttext=,
2363 reset=false,]

2364 \defineexamitem[ocitem]
2365 \def\setupocitem{\setupexamitem[ocitem]}

2366 \setupocitem [%answer=,
2367             %color=,
2368             point=\currentprevpoint,
2369             %showanswer=false,
2370             pointlabel={,\examtexts{point}},
2371             answerlabel={{\examtexts{answer}},},
2372             %answerstyle=,
2373             pointstyle=ttx,
2374             answerstyle=ttx,]

2375 \tolerant\protected\def\ocitem[#1]#: #2%
2376 {\begingroup
2377 \edef\currentexamitem{ocitem}%
2378 \iffirstargument\setupocitem[#1]\fi
2379 \useexamitemstyleandcolor\c!textstyle\c!textcolor
2380 \let\par\relax
2381 \item \parentitemnumber=\currentitemnumber\relax
2382 \set_count_envlevel[ocitem]%
2383 \namedexamitemparameter{ocitem}\c!left
2384 \allowbreak\doifsomethingelse{#2}{( #2 )}{ }% 放置選項，類似 inlinechoice
2385 \showpointoranswer [examitem][point]%
2386 \showpointoranswer [examitem][answer]%
2387 \installpointoranswer[examitem][answer]%
2388 \installpointoranswer[examitem][point]%
2389 \namedexamitemparameter{ocitem}\c!right
2390 \installdatacollector\installdatacollectorhelper
2391 \save_question_order
2392 \endgroup}

```



## 19 score

放置在 answer 環境內標記得分。

```

score\score{3}\
score\score[type=dotfill]{30}\
\resetscore\
score\score[type=cdotfill]{30}\
\setupscore[score=calculation]
score\score[type=space]{3}\
score\score[type=hfill]{3}\

2393 \def\score_calc#1{% only show number
2394 \global\c_stepscore_temp=#1\relax%
2395 \ifnum\c_stepscore=0\global\c_stepscore=#1\relax\else%
2396 \global\c_stepscore=\numexpr\c_stepscore+\c_stepscore_temp\relax%
2397 \fi\number\c_stepscore%
2398 }
2399 \def\dotfill{\leavevmode%
2400 \xleaders\hbox to 0.25em{\hfil.\hfil}%
2401 \hfill\kern 0pt\relax}
2402 \def\cdotfill{\leavevmode%
2403 \xleaders\hbox to 0.25em{\hfil$\cdot$\hfil}%
2404 \hfill\kern 0pt\relax}

2405 \installnamespace {score}
2406 \installcommandhandler \???score {score} \???score

2407 \setupscore[style=\ssa,color=red,dotstyle=\ss,dotcolor=red,score=]

2408 \tolerant\protected\def\score[#1]#:#2{\begingroup% format style
2409 \iffirstargument\setupscore[#1]\fi%
2410 \scoreparameter\c!before%
2411 \usescorestyleandcolor\c!style\c!color%
2412 \start\space\scoreparameter{dotstyle}%
2413 \switchtocolour[\scoreparameter{dotcolor}]%
2414 \doif{\scoreparameter\c!type}{\dotfill}%
2415 \doif{\scoreparameter\c!type}{space}%
2416 \doif{\scoreparameter\c!type}{hfill}{\unskip\hfill}%
2417 \doif{\scoreparameter\c!type}{dotfill}{\dotfill}%
2418 \doif{\scoreparameter\c!type}{cdotfill}{\cdotfill}%
2419 \space\stop\scoreparameter\c!left%
2420 \doif{\scoreparameter{score}}{#2}%
2421 \doif{\scoreparameter{score}}{default}{#2}%
2422 \doif{\scoreparameter{score}}{calculation}{\score_calc{#2}}%
2423 \doif{\scoreparameter{score}}{complex}{#2 : \score_calc{#2}}%
2424 \scoreparameter\c!right\scoreparameter\c!after%
2425 \par\endgroup}
2426 \def\resetscore{%
2427 \c_stepscore_temp=0\relax%
2428 \c_stepscore=0\relax%
2429 }
```

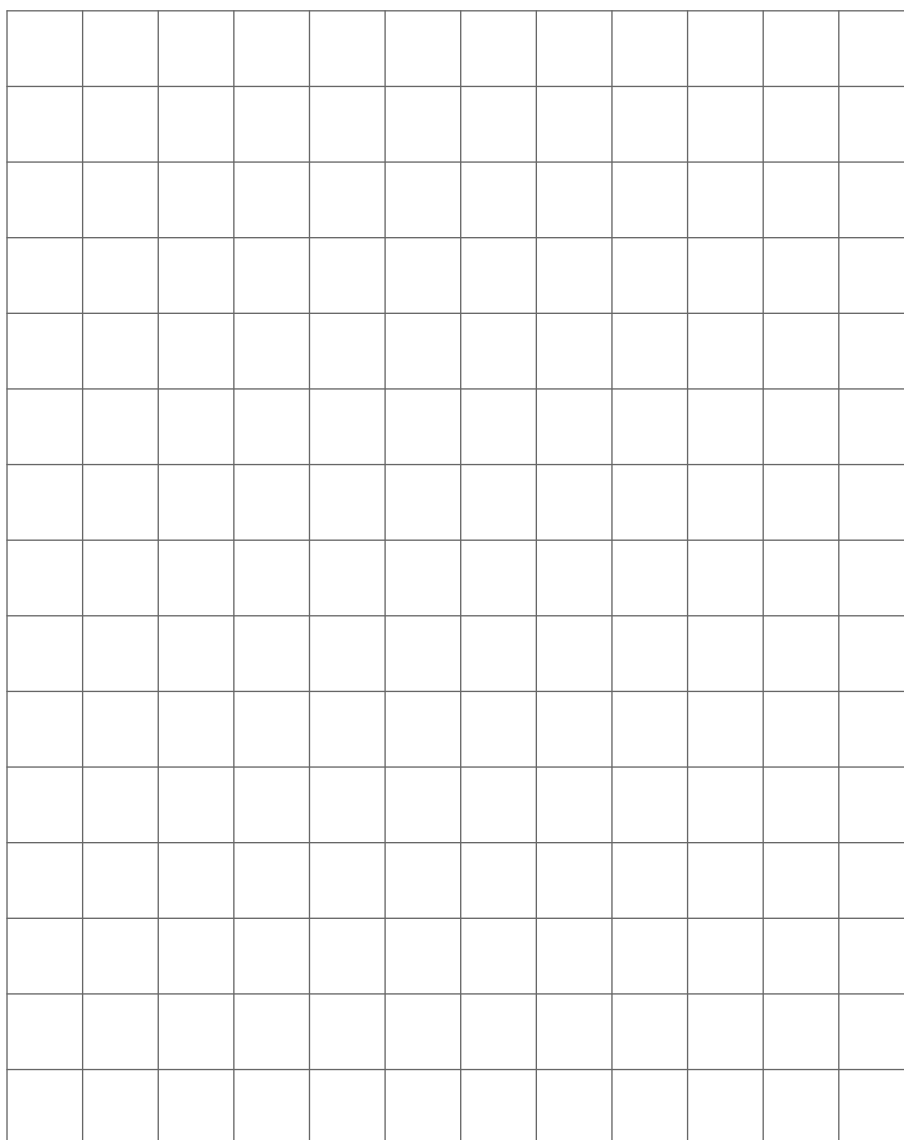


## 20 作文格 / Writing Box

```

\writingbox
[column=12,
row=15,
evencolor=blue,
oddcolor=darkgray,
evenheight=1cm,
oddheight=.5cm,
align=flushleft,
height=\textheight,
width=\textwidth,]{}
\writinggrid
[cellwidth=1cm,
column=12,
row=15,
cellcolor=darkgray,
align=flushleft,
height=\textheight,
width=\textwidth,]{}

```

```

2430 \startuseMPgraphic{grid:writngbox}{column,row,evenheight,oddheight,}
2431   pageWidth := OverlayWidth;
2432   evenRows  := \MPvar{row};
2433   evenHeight := \MPvar{evenheight};
2434   oddHeight  := \MPvar{oddheight};
2435   evenColumns := \MPvar{column};
2436   oddColumns := evenColumns + 1;

2437   %% 绘制偶数行
2438   for i = 1 upto evenColumns: % 可以根据需要调整行数
2439     y1 := i * (oddHeight + evenHeight) + oddHeight;
2440     y2 := y1 + evenHeight;
2441     for j = 0 upto evenRows - 1:
2442       x1 := j * (pageWidth / evenRows);
2443       x2 := x1 + (pageWidth / evenRows);
2444       draw (x1, y1) -- (x2, y1) -- (x2, y2) -- (x1, y2) -- cycle
2445         withcolor \MPvar{evencolor};
2446     endfor;
2447   endfor;

2448   %% 绘制奇数行
2449   for i = 1 upto oddColumns: % 可以根据需要调整行数
2450     y1 := i * (oddHeight + evenHeight);
2451     y2 := y1 + oddHeight;
2452     draw (0, y1) -- (pageWidth, y1) -- (pageWidth, y2) -- (0, y2) -- cycle
2453       withcolor \MPvar{oddcolor};
2454   endfor;
2455 \stopuseMPgraphic

2456 \defineoverlay
2457 [writngbox]
2458 [{\uniqueMPgraphic{grid:writngbox}{
2459   evencolor=\framedparameter{evencolor},
2460   oddcolor=\framedparameter{oddcolor},
2461   column=\framedparameter{column},
2462   row=\framedparameter{row},
2463   evenheight=\framedparameter{evenheight},
2464   oddheight=\framedparameter{oddheight},
2465   }}}]

2466 \defineframed[writngbox]
2467 [offset=overlay,
2468  background=writngbox,
2469  frameoffset=.5pt,
2470  column=12,
2471  row=15,
2472  evencolor=blue,
2473  oddcolor=darkgray,
2474  evenheight=1cm,
2475  oddheight=.5cm,
2476  align=flushleft,
2477  height=\textheight,

```

```

2478 width=\textwidth,
2479 rulethickness=1pt]

2480 \startuseMPgraphic{grid:writnggrid}{row,column,cellwidth,cellcolor}
2481 pageWidth := OverlayWidth;
2482 m := \MPvar{row}; % 行数
2483 u := \MPvar{cellwidth}; % 单位长度
2484 n := \MPvar{column}; % 列数
2485 % 画竖线
2486 for i = 0 upto n:
2487   draw (i*u, 0) -- (i*u, m*u) withcolor \MPvar{cellcolor};
2488 endfor;

2489 % 画横线
2490 for j = 0 upto m:
2491   draw (0, j*u) -- (n*u, j*u) withcolor \MPvar{cellcolor};
2492 endfor;
2493 \stopuseMPgraphic

2494 \defineoverlay
2495 [writnggrid]
2496 [{\uniqueMPgraphic{grid:writnggrid}{
2497   column=\framedparameter{column},
2498   row=\framedparameter{row},
2499   cellwidth=\framedparameter{cellwidth},
2500   cellcolor=\framedparameter{cellcolor},
2501   }}]

2502 \defineframed[writnggrid]
2503 [offset=overlay,
2504 background=writnggrid,
2505 frameoffset=.5pt,
2506 cellwidth=1cm,
2507 column=12,
2508 row=15,
2509 cellcolor=darkgray,
2510 align=flushleft,
2511 height=\textheight,
2512 width=\textwidth,
2513 rulethickness=1pt]

```





## 21 打印答案 / Print answer / 答案の輸出

```
2514 \newcount\c_qid_answer
2515 \def\resetanswerid{\global\c_qid_answer=0\relax}
```

Example 1:

```
\dorecurse{5}{\typeanswerbychap{1}} % grab answer from chapter 1
\newcount\c_tempa\c_tempa=2\relax % grab answer from 0-\the\c_tempa(chapter=0
qid=\the\c_tempa)
\dorecurse{5}{\typeanswerbychap[\c_tempa]{0}\advance\c_tempa by 1\relax}

2516 \tolerant\def\typeanswerbychap[#1]#:#2%
2517 {\begingroup% #1 = QID, #2 =chap number
2518 \ifparameter#1\or
2519 \doifsomethingelse{\scratchcounterone#1}{\scratchcounterone#1}{\scratchcounterone
2520 \zerocount}%
2521 \c_qid_answer=\numexpr\scratchcounterone -1\relax\fi
2522 \scratchcounter#2\relax
2523 \global\advance\c_qid_answer by 1\relax
2524 \datasetvariable{ExamDataset}{\the\scratchcounter-\the\c_qid_answer}{answer}%
2525 \endgroup}
```

Example 2:

```
\typeanswerdirect{0-5} % grab answer from chapter 0 qid 5

2526 \def\typeanswerdirect#1{% #1 = qid, 需要自行輸入來獲取某個題目的答案
2527 \datasetvariable{ExamDataset}{#1}{answer}}
```

Example 3:

```
\typeanswerlist{30} % type answer from chap 0 and get qid 1 - 30
\typeanswerlist[1]{30} % type answer from chap 1 and get qid 1 - 30
\typeanswerlist[1][2]{30} % type answer from chap 1 and get qid 2 - 30

2528 \tolerant\protected\def\typeanswerlist[#chapno][#startno]#*#:#total{%#1 = chapter number
2529 \begingroup
2530 \ifparameter#chapno\or
2531 \doifsomethingelse{\scratchcounterone #chapno }{\scratchcounterone #chapno }{
2532 \scratchcounterone \zerocount}\fi
2533 \ifparameter#startno\or
2534 \doifsomethingelse{\scratchcountertwo #startno}{\scratchcountertwo #startno}{
2535 \scratchcountertwo \zerocount}
2536 \else\scratchcountertwo\zerocount\fi
2537 \ifparameter#total\or
2538 \doifsomethingelse{\scratchcounterthree#total }{\scratchcounterthree#total }{
2539 \scratchcounterthree\zerocount}\fi
2540 \c_qid_answer=\scratchcountertwo
2541 \dorecurse{\the\scratchcounterthree}{% answer amount
2542 \datasetvariable{ExamDataset}{\the\scratchcounterone-\the\c_qid_answer}{answer},%
2543 \advance\c_qid_answer by 1\relax}%}
```

2544 `\endgroup}`

Example 4:

```
\typeanswertable[2,5]% #3 = 0 #4 = 1
\typeanswertable[2,5][0]% #4 = 1
\typeanswertable[2,5][0][6] % type answer in table
-----
| ID | ID | ID | ID | ID | #1 = 2
| 01 | 02 | 03 | 04 | 05 | #2 = 5
| AS | AS | AS | AS | AS | #3 = from chap 0
| 01 | 02 | 03 | 04 | 05 | #4 = type start QID 6
-----
```

```
2545 \newcount\answer@seq@tempa
2546 \newcount\answer@seq@tempb
2547 \tolerant\def\typeanswertable[#rows,#columns]#*[#chapno]#*[#startno]%
2548 {\begingroup
2549 \ifarguments\or\or
2550 \scratchcounter \zerocount\relax
2551 \scratchcounterone \zerocount\relax
2552 \or
2553 \doifsomethingelse{\scratchcounter #chapno \relax}%
2554     {\scratchcounter #chapno \relax}%
2555     {\scratchcounter \zerocount\relax}%
2556     {\scratchcounterone \zerocount\relax
2557 \or
2558 \doifsomethingelse{\scratchcounter #chapno \relax}%
2559     {\scratchcounter #chapno \relax}%
2560     {\scratchcounter \zerocount\relax}%
2561 \doifsomethingelse{\scratchcounterone #startno\relax}%
2562     {\scratchcounterone #startno\relax}%
2563     {\scratchcounterone \zerocount\relax}%
2564 \or\fi
2565 \answer@seq@tempa=\numexpr\scratchcounterone-1\relax
2566 \answer@seq@tempb=\numexpr\scratchcounterone-1\relax
2567 \bTABLE
2568 \dorecurse{#rows}{
2569     \bTR
2570     \dorecurse{#columns}{\advance\answer@seq@tempa by 1\relax
2571         \expanded{\bTD\tt\datasetvariable{ExamDataset}{\the\scratchcounter-\the
2572             \answer@seq@tempa}{\userorder}{\eTD}}}%
2573     \eTR\bTR
2574     \dorecurse{#columns}{\advance\answer@seq@tempb by 1\relax
2575         \expanded{\bTD\ss\datasetvariable{ExamDataset}{\the\scratchcounter-\the
2576             \answer@seq@tempb}{\answer}{\eTD}}}%
2577     \eTR}%
2578 \eTABLE
2579 \par\endgroup}
```

Example 5:

```

\typeanswerablealt[4,2]% #3 = 0 #4 = 1
\typeanswerablealt[4,2][1]% #4 = 1
\typeanswerablealt[4,2][1][2] % type answer in table
-----
| ID | 01 | AS | 01 | #1 = 4
| ID | 02 | AS | 02 | #2 = 2
| ID | 03 | AS | 03 | #3 = from chap 0
| ID | 04 | AS | 04 | #4 = type start QID 2
-----

```

```

2580 \tolerant\def\typeanswerablealt[#rows,#columns]#*[#chapno]#*[#startno]%
2581 {\begingroup\ifarguments 0\or
2582 \scratchcounter \zerocount\relax
2583 \scratchcounterthree \zerocount\relax
2584 \or
2585 \scratchcounter \zerocount\relax
2586 \scratchcounterthree \zerocount\relax
2587 \or
2588 \scratchcounterthree \zerocount\relax% for startno
2589 \doifsomethingelse{\scratchcounter #chapno \relax}%
2590 {\scratchcounter #chapno \relax}%
2591 {\scratchcounter \zerocount\relax}%
2592 \or
2593 \doifsomethingelse{\scratchcounter #chapno \relax}%
2594 {\scratchcounter #chapno \relax}%
2595 {\scratchcounter \zerocount\relax}%
2596 \doifsomethingelse{\scratchcounterthree #startno\relax}%
2597 {\scratchcounterthree #startno\relax}%
2598 {\scratchcounterthree \zerocount\relax}%
2599 \or\fi
2600 \scratchcounterone #rows \relax
2601 \scratchcountertwo #columns\relax
2602 \answer@seq@tempa=\numexpr\scratchcounterthree-1\relax
2603 \def\getdata##1{\datasetvariable
2604 {ExamDataset}%
2605 {\the\scratchcounter-\the\answer@seq@tempa}%
2606 {##1}}%
2607 \bTABLE
2608 \dorecurse{\the\scratchcounterone}{\bTR
2609 \dorecurse{\the\scratchcountertwo}{\advance\answer@seq@tempa by 1\relax
2610 \expanded{\bTD\tt\getdata{userorder}\eTD}%
2611 \expanded{\bTD\ss\getdata{answer} \eTD}%
2612 }%
2613 \eTR}%
2614 \eTABLE
2615 \par\endgroup}

```



## 22 模式設置 / Mode Setting/ モードセット

```

2616 \definemode[teacher][keep]
2617 \definemode[student][keep]
2618 \definemode[check] [keep]
2619 \startmode[teacher]
2620   \mode_showanswertrue
2621   \mode_showpointtrue
2622 \stopmode
2623 \startmode[student]
2624   \mode_showanswerfalse
2625   \mode_showpointfalse
2626 \stopmode
2627 \startmode[check]
2628   \mode_checktrue
2629 \stopmode
2630 \def\showanswer{\mode_showanswertrue\setupanswer[showscript=false]}
2631 \def\hideanswer{\mode_showanswerfalse\setupanswer[showscript=true]}
2632 \let\showpoint\mode_showpointtrue
2633 \let\hidepoint\mode_showanswerfalse
2634 \let\showchekininfo\mode_checktrue
2635 \protect
2636 \stopmodule
2637 \endinput

```

Memoir Ever

\definepapertitle 24  
\makepapertitle 24

\setuppapertitle 24