

# CONTEXT

basicexam

Memoir Ever

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1 `\startmodule[basicexam]`

2 `\unprotect`

1	模塊參數 / Module Setups / モジュール セットアップ	4
2	尚未處理的組合 / Command under handling / 未完成のコマンド	6
3	定义其后环境所需命令	8
4	繪製卷頭 / print title / タイトルの作成	12
5	設定一些可能用得到的符号 / Symbol Defination / シンボルの定義	16
6	设置 problem 环境 / Problem Environment	28
7	设置 question 环境	34
8	设置 choice 环境	38
9	设置 writing 环境	44
10	设置 answer 环境	48
11	设置 pitem,citem 命令	54
12	定义同义命令	58
13	設置 fillin 命令	60
14	設置 material 環境	64
15	设置 close 环境	68
16	設置 optclose 環境	72
17	score	74
18	模拟例子	76
19	打印答案 / Print answer / 答えの輸出	80
20	模式設置 / Mode Setting/ モードセット	84



## 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]

4 \startinterface english
5 \setinterfacemessage{basicexam}{1}{There are unknown parameters in --, please
6   check.}
7 \setinterfacemessage{basicexam}{2}{Question (--): answer is (--).}
8 \setinterfacemessage{basicexam}{3}{You defined --, but you don't assign a value
9   to it. Please check.}
10 \setinterfacemessage{basicexam}{9}{-- is not installed, some -- will not display
11   properly.}
12 \stopinterface

13 \newif\iflay_twoup \lay_twoupfalse
14 \newif\ifhdr_default \hdr_defaultfalse

15 \processallactionsinset[\currentmoduleparameter{mode}][
16   teacher=>\enablemode[teacher]},
17   student=>\enablemode[student]},
18   check=>\enablemode[check]},
19   \v!default=>\enablemode[student]},
20   \v!unknown=>\showmessage{basicexam}{1}{mode},
21 ]

22 \processallactionsinset[\currentmoduleparameter{layout}][
23   twoup=>\lay_twouptrue,
24   none=>\relax,
25   \v!default=>\relax,
26   \v!unknown=>\showmessage{basicexam}{1}{layout},
27 ]

28 \processallactionsinset[\currentmoduleparameter{footer}][
29   none=>\relax,
30   \v!default=>\hdr_defaulttrue,
31   \v!unknown=>\showmessage{basicexam}{1}{footer},
32 ]

```



## 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}]
```

```
33 \iflay_twoup
34 \setuppapersize[A4][A3,landscape]
35 \setuparranging[2SIDE]% 2SIDE start page at odd [2UP] start at even
36 \setuppagenumbering[alternative={doublesided}]%singlesided]
37 \fi
```





### 3 定义其后环境所需命令

定义关键词

```

38 \startinterface all
39 \setinterfaceconstant {class} {class}
40 \setinterfaceconstant {answer} {answer}
41 \setinterfaceconstant {point} {point}
42 \setinterfaceconstant {showanswer} {showanswer}
43 \setinterfaceconstant {showpoint} {showpoint}
44 \setinterfaceconstant {answerstyle} {answerstyle}
45 \setinterfaceconstant {answercolor} {answercolor}
46 \setinterfaceconstant {answerlabel} {answerlabel}
47 \setinterfaceconstant {pointstyle} {pointstyle}
48 \setinterfaceconstant {pointcolor} {pointcolor}
49 \setinterfaceconstant {pointlabel} {pointlabel}
50 \setinterfaceconstant {autoright} {autoright}
51 \setinterfaceconstant {inlineleft} {inlineleft}
52 \setinterfaceconstant {inlineright} {inlineright}
53 \setinterfaceconstant {inlinechoice} {inlinechoice}
54 \stopinterface

```

安装定义命名空间和环境助手

```

55 \installnamespace {close}
56 \installcommandhandler \???close {close} \???close
57 \newif\ifmode_quickcheck \mode_quickcheckfalse
58 \newif\ifmode_check \mode_checkfalse
59 \newif\ifmode_showanswer \mode_showanswerfalse
60 \newif\ifmode_showpoint \mode_showpointfalse
61 \newif\ifmode_showscript \mode_showscriptfalse
62 \newif\ifmode_example \mode_examplefalse
63 \newif\ifenv_question \env_questionfalse
64 \newif\ifenv_problem \env_problemfalse
65 \newif\ifenv_choice \env_choicefalse
66 \newif\ifenv_material \env_materialfalse
67 \newif\ifenv_close \env_closefalse
68 \newif\ifenv_writing \env_writingfalse
69 \newif\ifenv_subwriting \env_subwritingfalse
70 \newif\ifenv_answer \env_answerfalse
71 \newif\ifenv_toplevel \env_topleveltrue
72 \newif\ifenv_botlevel \env_botlevelfalse
73 \newif\ifitem_pitem \item_pitemfalse
74 \newif\ifitem_fillin \item_fillinfalse
75 \newif\ifitem_inlinechoice \item_inlinechoicefalse
76 \newif\ifchoice_check \choice_checkfalse
77 \newif\ifcontinue_counter \continue_counterfalse
78 \newif\ifclose_counter_reset \close_counter_resetfalse

79 \newdimen\d_width_cit
80 \newdimen\d_width_cit_max
81 \newdimen\d_compared_maxwidth

```

```

82 \newdimen\d_maxwidth_with_label
83 \newcount\c_currentitemnumber% 封裝在 inititemnumber 和 incrementitemnumber 中
84 \newcount\c_totalitemnumber% 封裝在 recurseditemnumber 中
85 \newcount\c_steppoint% 封裝在 install_point 命令中
86 \newcount\c_steppoint_temp
87 \newcount\c_stepscore
88 \newcount\c_stepscore_temp
89 \newcount\c_closestest
90 \newcount\c_closestest_tempa
91 \newcount\c_example_question
92 \newcount\c_envcounter_toggle
93 \newcount\c_fillin_number
94 \newcount\current_total_choice_number% 當前選項 ABCD 總計數，获取已经计算后的
95 totalitemnumber
96 \newcount\current_available_columns%可排版的最多列數
97 \newcount\parentitemnumber% \parentitemnumber 会等于父级列表环境的序号

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

103 \def\inititemnumber{\c_currentitemnumber=0\relax\c_totalitemnumber=0\relax}
104 \def\incrementitemnumber{\global\advance\c_currentitemnumber by 1\relax}
105 \def\recurseditemnumber%%遞歸出總序號
106 {\ifnum \c_totalitemnumber > \c_currentitemnumber%
107 \global\c_totalitemnumber = \c_totalitemnumber%
108 \else \global\c_totalitemnumber = \numexpr\c_currentitemnumber\relax\fi}
109 \def\save_question_order{\setcounter[strc_close_counter][\currentitemnumber]
110 \savecounter[strc_close_counter]}
111 \def\restore_question_order{\restorecounter[strc_close_counter]}
112 \def\EQuestionID{E-\somenamedheadnumber{chapter}{current}-\number
113 \c_example_question}
114 \def\QuestionID{\ifmode_example\EQuestionID\else\somenamedheadnumber{chapter}{
115 current}-\rawcountervalue[Unicode]\fi}
116 \def\HelperID{\namedheadnumber{chapter}-\rawcountervalue[Unicode_toplevel]}
117 \def\increaseEQuestionID{\advance\c_example_question by 1\relax}
118 \def\decreaseEQuestionID{\advance\c_example_question by -1\relax}
119 \def\increaseQuestionID{\ifmode_example\increaseEQuestionID\else\incrementcounter
120 [Unicode]\fi}
121 \def\decreaseQuestionID{\ifmode_example\decreaseEQuestionID\else\decrementcounter
122 [Unicode]\fi}

123 \definedataset[Answer_collector]
124 \definedataset[Answer_collectorhelper]
125 \definedataset[Subwriting_collector]
126 \newwrite\examanswer

127 \def\exam_write_answer{%
128 \immediate\openout\examanswer=\jobname -answer.txt\relax
129 \immediate\write\examanswer{

```

```

130 \QuestionID \space\string @
131 \currentenvironment \space\string @
132 \currentuserorder \space\string @
133 \pass_parameter_answer}%
134 % \closeout\examanswer
135 }

136 \ifmode_check
137 \immediate\openout\examanswer=\jobname -answer.txt\relax
138 \immediate\write\examanswer{
139 \string questionid \space\string @
140 \string environment \space\string @
141 \string userorder \space\string @
142 \string answer}
143 \fi

144 \definetextbackground[env_answer]
145 \defineitemgroup [env_question]
146 \defineitemgroup [env_problem]
147 \defineitemgroup [env_choice]
148 \definebar [fillin_text]
149 \definemarking [title]
150 \definemarking [subject]
151 \defineoverlay [normalframeOL][\useMPgraphic{normalframeMP}]

152 \startuseMPgraphic{normalframeMP}
153 draw unitsquare xyscaled (\overlaywidth, \overlayheight);
154 \stopuseMPgraphic
155 \startuseMPgraphic{rules:under:wave}
156 vardef lsin primary x =
157 lua("mp.print(math.sin(" & decimal x & "))")
158 enddef ;
159 draw function(1, "x", "lsin(1.2*x)", 0, RuleWidth, .1pt)
160 shifted (0,RuleFactor*RuleOffset+RuleDepth)
161 withpen pencircle scaled RuleThickness
162 withcolor RuleColor ;
163 setbounds currentpicture to unitsquare xysized(RuleWidth,RuleHeight) ;
164 \stopuseMPgraphic

165 \defineconversion [hiragana] [あ,い,う,え,お,か,き,く,け,こ,さ,し,す,せ,そ,
166 た,ち,つ,て,と,な,に,ぬ,ね,の,は,ひ,ふ,へ,ほ,
167 ま,み,む,め,も,や,ゆ,よ,ら,り,る,れ,ろ,わ,ん]
168 \defineconversion [katakana] [ア,イ,ウ,エ,オ,カ,キ,ク,ケ,コ,サ,シ,ス,セ,ソ,
169 タ,チ,ツ,テ,ト,ナ,ニ,ヌ,ネ,ノ,ハ,ヒ,フ,ヘ,ホ,
170 マ,ミ,ム,メ,モ,ヤ,ユ,ヨ,ラ,リ,ル,レ,ロ,ワ,ン]
171 \defineconversion [hiragana-iroha][い,ろ,は,に,ほ,へ,と,ち,り,ぬ,る,を,わ,か,よ,
172 た,れ,そ,つ,ね,な,ら,む,う,ゐ,の,お,く,や,ま,
173 け,ふ,こ,え,て,あ,さ,き,ゆ,め,み,し,ゑ,ひ,も,
174 せ,す,ん]
175 \defineconversion [katakana-iroha][イ,ロ,ハ,ニ,ホ,ヘ,ト,チ,リ,ヌ,ル,ヲ,ワ,カ,ヨ,
176 タ,レ,ソ,ツ,ネ,ナ,ラ,ム,ウ,キ,ノ,オ,ク,ヤ,マ,
177 ケ,フ,コ,エ,テ,ア,サ,キ,ユ,メ,ミ,シ,エ,ヒ,モ,

```

```

178         セ,ス,ン]
179 \definelabelclass [exam] [0]
180 \setuplabeltext [cn] [section={第,部分},subsection={第,节}]
181 \setupexamtext [cn] [point={分}, answer={答案:}, page={第,页}, totalpage={共,页}]
182 \setupexamtext [hans] [point={分}, answer={答案:}, page={第,页}, totalpage={共,页}]
183 ]% work with memos module
184 \setupexamtext [hant] [point={分}, answer={答案:}, page={第,頁}, totalpage={共,頁}]
185 ]% work with memos module
186 \setupexamtext [en] [point={pts},answer={answer:},page={pages}, totalpage={
187 total,pages}]
188 \setupexamtext [ja] [point={点}, answer={答え:}, page={第,ページ},totalpage={共,
189 ページ}]

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

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

```

## 4 繪製卷頭 / print title / タイトルの作成

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,
  informationalign=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]

221 \installnamespace {papertitle}
222 \installnamespace {papertitlealternative}
223 \installnamespace {papertitlerenderings}

224 \installcommandhandler \????papertitle {papertitle} \????papertitle
225 \installcommandhandler \? ? ? ?papertitlealternative {papertitlealternative}
226 \????papertitlealternative

227 \def\doifemptyelsex#1#2{\doifelse{#1}{#2}{#1}}
228 \def\definepapertitlevariable#1{\begingroup% #1=element name
229 \parindent0pt\relax\par%
230 \doifelse{\namedpapertitleparameter{\currentpapertitle}{#1align}}{#1}%
231 {\setupalign[center]}%
232 {\setupalign[\namedpapertitleparameter{\currentpapertitle}{#1align}]}%
233 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{before#1}}{#1}%
234 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1style}}{#1}%
235 \expandafter\beginsname\namedpapertitleparameter{\currentpapertitle}{#1color}
236 \endcsname
237 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1}}{#1}%
238 {\showmessage{basicexam}{3}{#1}}%
239 \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{after#1}}{#1}%
240 \par\endgroup}

241 \tolerant\def\makepapertitle[#1][#2]%
242 {\begingroup\cdef\currentpapertitle{#1}%
243 \ifarguments\or\or\setuppapertitle[#1][#2]\fi
244 \edef\currentpapertitlealternative{\papertitleparameter\c!alternative}%
245 \ifcsname\currentpapertitlealternativehash\s!parent\endcsname \else
246 \let\currentpapertitlealternative\s!default
247 \fi
248 \usesetupparameter\papertitleparameter
249 \edef\p_renderingsetup{\papertitlealternativeparameter\c!renderingsetup}%
250 \directsetup\p_renderingsetup
251 \marking[subject]{\papertitleparameter{subject}
252 \papertitleparameter{subjectsuffix}}
253 \marking[title]{\papertitleparameter\c!title}
254 \endgroup}

```

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

```

255 \definepapertitlealternative
256 [\s!default]
257 [\c!renderingsetup=\????papertitlerenderings:\s!default]

258 \startsetups[\????papertitlerenderings:\s!default]

```

```

259 \edef\currentlist{\papertitleparameter\c!list}
260 \edef\currenttitle{\papertitleparameter\c!title}
261 \expandafter\expandafter\expandafter\tu\expandafter{\currenttitle}
262 \processcommaccommand[\currentlist]\definepapertitlevariable
263 \stopsetups

264 \setuppapertitle [
265   \c!alternative=\s!default,
266   subjectsuffix=学科试卷,
267   list={secret,title,subject,information,signinformation,notice},
268 ]
269 \setuppapertitle [
270   secretstyle=\ss,
271   titlestyle=\ssa,
272   subjectstyle=\ssb,
273   informationstyle=\ttx,
274   noticestyle=\rm\it,
275   secretalign=flushleft,
276   titlealign=center,
277   subjectalign=center,
278   informationalign=center,
279   noticealign=flushleft,
280   secret={绝密 ★ 启用前},
281   title={\currentdate[year] 年普通高等学校招生全国统一考试},
282   subject={英语},
283   signinformation={姓名: {}{\blackrule[width=4em,height=.2pt]}
284                   {准考证号: {}{\blackrule[width=4em,height=.2pt]}},
285   information={全卷共12页, 满分150分, 考试时间120分钟。},
286   notice={考生注意:
287     \startitemize[n,packed,joinedup]
288     \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
289       或钢笔分别填写在试题卷和答题纸规定的位置上。 %
290     \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
291       位置上规范作答, 在本试题卷上的作答一律无效。 %
292     \stopitemize},
293 ]

294 \definepapertitle[newpaper]

```





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

```

295 \doifelsefontpresent{NotoSansSymbols2-Regular}{\fontfamily{NotoSansSymbols2-Regular}}
296 \showmessage{basicexam}{9}{NotoSansSymbols2 font,symbol}
297 \definefontsynonym[NotoSansSymbols2][file:NotoSansSymbols2-Regular]
298 \def\notosymb#1{\getglyphstyled{NotoSansSymbols2}{\tochar{n:#1}}}

299 \definesymbol[marksquare] [\notosymb{ }]
300 \definesymbol[markcircle] [\notosymb{O}]
301 \definesymbol[marknotcheck] [\notosymb{ }]
302 \definesymbol[markcheck] [\notosymb{ }]
303 \definesymbol[markheavycheck] [\notosymb{ }]
304 \definesymbol[marksquarecheck] [\notosymb{\rlap{ },\raise.2em\hbox{ }}]
305 \definesymbol[marksquareheavycheck] [\notosymb{\rlap{ },\raise.2em\hbox{ }}]
306 \definesymbol[markcirclecheck] [\notosymb{\rlap{O},\raise.2em\hbox{ }}]
307 \definesymbol[markcircleheavycheck] [\notosymb{\rlap{O},\raise.2em\hbox{ }}]
308 \definesymbol[markcross] [\notosymb{X}]
309 \definesymbol[markheavycross] [\notosymb{X}]
310 \definesymbol[marksquarecross] [\notosymb{\rlap{ },\raise.1em\hbox{X}}]
311 \definesymbol[marksquareheavycross] [\notosymb{\rlap{ },\raise.1em\hbox{X}}]
312 \definesymbol[markcirclecross] [\notosymb{\rlap{O},\raise.1em\hbox{X}}]
313 \definesymbol[markcircleheavycross] [\notosymb{\rlap{O},\raise.1em\hbox{X}}]

```

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

\symbol{marksquare}	□	\symbol{markcircle}	○
\symbol{markcheck}	✓	\symbol{markcross}	✕
\symbol{markheavycheck}	✓	\symbol{markheavycross}	✕
\symbol{marksquarecheck}	☑	\symbol{marksquarecross}	☒
\symbol{marksquareheavycheck}	☑	\symbol{marksquareheavycross}	☒
\symbol{markcirclecheck}	⊙	\symbol{markcirclecross}	⊗
\symbol{markcircleheavycheck}	⊙	\symbol{markcircleheavycross}	⊗
\symbol{marknotcheck}	✎		

```

314 \def\choice_answerstatus {\datasetvariable{Choice_collector}{\QuestionID}{
315   answerstatus}}
316 \def\point_totalpoint {\datasetvariable{Answer_collector}{\QuestionID}{
317   totalpoint}}
318 \def\point_point {\datasetvariable{Answer_collector}{\QuestionID}{point}}
319 \def\currentavailablecolumns {}
320 \def\currentrealavailablecolumns {}
321 \def\currentitemmaxwidth {}
322 \def\currentanswerstatus {}
323 \def\example_mode{\ifmode_example NOTICE: MODE EXAMPLE IS ON !\fi}

324 \startluacode
325   local report = logs.reporter("question info")

326   local function center_text(text, total_width)
327     local text_length = #text
328     local left_padding = math.floor((total_width - text_length) / 2)
329     local right_padding = total_width - left_padding - text_length

```

```

330     return string.rep(' ', left_padding) .. text .. string.rep(' ', right_padding)
331 end

332 local function center_report(centerinfos)
333     for _, row in ipairs(centerinfos) do
334         local centered_line = center_text(row, 60)
335         report(centered_line)
336     end
337 end

338 local lines = {
339     "NOTICE: MODE CHECK IS ON !",
340     "Notice,Cinfos only show choice env information",
341     "CU means 'current' , if CUuserorder ≠ CUorder,",
342     "It maybe because START parameter is enabled. ",
343     "Notice,MODE EXAMPLE wont provide data infos "
344 }

345 function formatted_report(data)
346     -- 定义格式化字符串, 加入竖线作为分隔符
347     local format_str = "%15s %-20s %15s %-20s"

348     report("-----")
349     center_report(lines,60)

350     -- 输出数据
351     for _, row in ipairs(data) do
352         report(format_str:format(row[1], row[2], row[3], row[4]))
353     end
354     report("-----")
355 end
356 \stopluacode

357 \def\check_info{
358     {"", "\example_mode", "", ""},
359     {"Name", "Content", ""},
360     {"Cinfos", "Content", ""},
361     {"CUitemgroup", "\datasetvariable{Answer_collector}{\QuestionID}{envid}
362     ",
363     {"CUparen", "\currentparentitemgroup", ""},
364     {"QuestionID", "\QuestionID", ""},
365     {"HelperID", "\HelperID", ""},
366     {"order", "\currentorder", ""},
367     {"userorder", "\currentuserorder", ""},
368     {"point", "\datasetvariable{Answer_collector}{\QuestionID}{point}", ""},
369     {"", "", ""},
370     {"totalnumber", "\datasetvariable{Answer_collector}{\QuestionID}{totalnumber}
371     ",
372     {"Htotalnumber", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
373     totalitemnumber}"},
374     {"totalpoint", "\datasetvariable{Answer_collector}{\QuestionID}{totalpoint}
375     ",

```

```

376     Htotalpoint ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
377     totalpoint} ",
378     {"CUCmaxwidth ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
379     itemmaxwidth} ",
380     "Cavailable ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
381     availablecolumns} &
382     \datasetvariable{Answer_collectorhelper}{\HelperID}{realavailablecolumns
383     }"}},
384     {"answer ", "\datasetvariable{Answer_collector} {\QuestionID}{answer} ",
385     " ", " ", " "},
386     {"Hanswer ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{answer}
387     ",
388     " ", " "},
389     {"mode.status ", "\mode_status ",
390     "level.check ", "\level_status ",
391     {"Canswerstatus", "\choice_answerstatus ",
392     " ", " "},
393 }
394 \def\show_check_info#1{\begingroup\ifmode_check%
395 \ifdefined\currentorder%
396 \let\old_currentorder\currentorder
397 \let\old_currentorder\currentuserorder
398 \else%
399 \def\currentorder{ {\ttx currentorder didn't define}}
400 \def\currentuserorder{{\ttx currentorder didn't define}}
401 \fi%
402 \directlua{formatted_report({#1})}\fi\endgroup}
403 \def\dimtonum #1{\number\numexpr \dimexpr #1\relax*635/65536\relax }
404 \newcount\cnt_floor
405 \def\floor#1{\floorhelper#1.\relax}
406 \def\floorhelper#1.#2\relax{\ifx\relax#2\relax#1%
407 \else\if.#2#1\else\floorhelphelper{#1}#2\fi\fi}
408 \def\floorhelphelper#1#2.{\ifnum#2>0%
409 \floorhelphelphelper#1\relax\relax\relax\else#1\fi}
410 \def\floorhelphelphelper#1#2\relax{%
411 \if-#1\relax-\cnt_floor=0#2\relax%
412 \advance\cnt_floor by 1\relax%
413 \number\cnt_floor\relax%
414 \else\cnt_floor=0#1#2\relax%
415 \number\cnt_floor\relax\fi%
416 }
417 \def\initcollectanswer{\directlua{MultiAnswerCollector = {}}}
418 \def\collectanswer#1{\directlua{table.insert(MultiAnswerCollector, [[#1]])}}
419 \def\collectedanswer{\directlua{tex.sprint(table.concat(MultiAnswerCollector, ",")
420 )}}
421 \def\example_toggle[#1]% 专用于测试是否开启了 example mode
422 {\doif\csname #1parameter\endcsname{example}}{true}%
423 {\mode_exampletrue\global\c_envcounter_toggle=999\relax}}

```

```

424 \def\set_envitem_counter{%
425   \ifdefined\currentenvnumber
426     \edef\prevenvnumber{\currentenvnumber}%
427   \fi\initcollectanswer% 初始化多项答案收集器
428   \global\c_envcounter_toggle=0\relax%
429   \ifenv_question \global\c_envcounter_toggle=1\relax \edef\currentenvironment {
430     question}\fi
431   \ifenv_problem \global\c_envcounter_toggle=2\relax \edef\currentenvironment {
432     problem}\fi
433   \ifenv_choice \global\c_envcounter_toggle=3\relax \edef\currentenvironment {
434     choice}\fi
435   \ifenv_material \global\c_envcounter_toggle=4\relax \edef\currentenvironment {
436     material}\fi
437   \ifenv_close \global\c_envcounter_toggle=5\relax \edef\currentenvironment {
438     close}\fi
439   \ifenv_writing \global\c_envcounter_toggle=6\relax \edef\currentenvironment {
440     writing}\fi
441   \ifenv_subwriting \global\c_envcounter_toggle=7\relax \edef\currentenvironment{
442     subwriting}\fi
443   \ifenv_answer \global\advance\c_envcounter_toggle by 10\relax\fi
444   \edef\currentenvnumber{\the\c_envcounter_toggle}}

445 \def\level_status{\ifenv_toplevel <env_toplevel>\else%
446   \ifenv_botlevel <env_botlevel>\else%
447     <env_midlevel>\fi\fi}

448 \def\mode_status{\ifmode_check <M:C>\fi%check
449   \ifmode_showanswer <M:A>\fi%answer
450   \ifmode_showpoint <M:P>\fi%point
451   \ifmode_example <M:E>\fi}

452 \def\current_user_order#1{% get user order which can by changed by START
453   \number\csname #1order\endcsname% 獲得的結果類似於 2(4)
454   \ifnum\rawcountvalue[Unicode_botlevel]=0\else%
455     (\rawcountvalue[Unicode_botlevel])\fi}

456 \def\set_currentuserorder[#1]{% set order that user setted
457   \ifcsname #1order\endcsname\else
458     \expandafter\newcount\csname #1order\endcsname\fi
459   \ifenv_toplevel\csname #1order\endcsname=\currentitemnumber
460     \else\csname #1order\endcsname=\parentitemnumber \fi
461   \edef\currentid{\QuestionID}%
462   \edef\currentorder{% get unique order ( no chapter number )
463     \somenamedheadnumber{chapter}{current}}-%
464     \rawcountvalue[Unicode_toplevel]-%
465     \rawcountvalue[Unicode_midlevel]-%
466     \rawcountvalue[Unicode_botlevel]}%
467   \edef\currentuserorder{\current_user_order{#1}}%获取上面定义的 #1order
468   }%专为子级设计来获取父级序号，否则直接获取当前序号

469 \tolerant\def\set_count_envlevel[#1]{% #1 定義 #2order
470   \setcounter[Unicode_midlevel][0]%

```

```

471 \setcounter[Unicode_botlevel][0]%
472 \ifdefined\prevenvnumber
473 \ifx\currentenvnumber\prevenvnumber
474 \env_topleveltrue \incrementcounter[Unicode_toplevel]%
475 \else\env_toplevelfalse\incrementcounter[Unicode_midlevel]\fi
476 \else\env_topleveltrue \incrementcounter[Unicode_toplevel]\fi
477 \parentitemnumber=\currentitemnumber\relax
478 \set_currentuserorder[#1]% 创建 #2order 以备使用
479 \inititemnumber%初始化子题目计数器
480 \expandafter\show_check_info{\check_info}%
481 }

482 \tolerant\def\set_count_itemlevel[#1]{%
483 \env_toplevelfalse
484 \ifdefined\prevenvnumber
485 \ifx\currentenvnumber\prevenvnumber
486 \env_botlevelfalse\incrementcounter[Unicode_midlevel]\else
487 \env_botleveltrue \incrementcounter[Unicode_botlevel]\fi
488 \else\env_botlevelfalse\incrementcounter[Unicode_midlevel]%
489 \fi\ifenv_subwriting\env_botleveltrue\fi
490 \set_currentuserorder[#1]%
491 \incrementitemnumber%增长子题目计数器
492 \expandafter\show_check_info{\check_info}%
493 }

494 \def\installdatacollector%
495 {\writestatus{basicexam}{Question (\currentuserorder): answer is (\currentanswer
496 ).}%显示题号和答案到控制台
497 \ifmode_check\exam_write_answer\fi
498 \setdataset [Answer_collector][\QuestionID]%收集答案并在未来展开
499 [id={\QuestionID},%
500 envid={\currentenvironment : \the\c_envcounter_toggle : \currentitemgroup}
501 ,%
502 order={\number\currentorder},%
503 userorder={\currentuserorder},%
504 answer={\pass_parameter_answer},%
505 point={\currentpoint},%
506 totalnumber={\datasetvariable{Answer_collectorhelper}{\HelperID}{
507 totalitemnumber}},%
508 totalpoint={\datasetvariable {Answer_collectorhelper}{\HelperID}{
509 totalpoint}},]}

510 \protected\def\installdatacollectorhelper{%
511 \recurseditemnumber%
512 \setdataset [Answer_collectorhelper][\HelperID]%收集信息并在未来展开
513 [totalitemnumber={\the\c_totalitemnumber},
514 totalpoint={\currenttotalpoint},
515 availablecolumns={\currentavailablecolumns},
516 realavailablecolumns={\currentrealavailablecolumns},
517 itemmaxwidth={\currentitemmaxwidth},
518 answer={\currentanswer},
519 answerstatus={\check_choice_answerstatus},

```

```

520         ]%
521     }

522 \def\pass_parameter_answer{%
523     \ifenv_writing\short_writing_answer\else
524     \ifempty\currentanswer there is no answer setted.\else
525     \currentanswer\fi\fi}

526 \def\getanswerforanswer{% used for answer env to auto get answer
527     \ifenv_writing
528     \short_writing_answer
529     \else
530     \datasetvariable{Answer_collector}{\QuestionID}{answer}%
531     \fi}

532 \def\getpointforanswer{% used for answer env to auto get point
533     \datasetvariable{Answer_collector}{\QuestionID}{point}}

534 \def\check_choice_answerstatus{\ifchoice_check checked!\else%
535     unchecked!please set the answer manually by add [*] parameter to cite command.
536     \fi}

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

538 \protected\def\install_point[#1]{%
539     \edef\p_showpoint{\csname #1parameter\endcsname\showpoint}}%
540     \ifempty\p_showpoint\else
541     \ifx\p_showpoint\s!true\mode_showpointtrue
542     \else\mode_showpointfalse
543     \fi\fi
544     \ifx\currentmode\c!point
545     \ifdefined\currentpoint\edef\prevpoint{\currentpoint}\fi
546     \edef\p_point{\csname #1parameter\endcsname\c!point}%暫時定義
547     \ifempty\p_point
548     \ifenv_toplevel% 當處於頂層時，由於 prev 也未定義，會拋出錯誤
549     \edef\currentpoint{0}\else% 因此，直接賦值未 0
550     \edef\currentpoint{\prevpoint}\fi
551     \else%
552     \ifenv_subwriting
553     \edef\currentpoint{\namedwritingparameter{subwriting}\c!point}%
554     \else
555     \edef\currentpoint{\csname #1parameter\endcsname\c!point}%
556     \fi
557     \fi
558     \ifempty\currentpoint% 抓取當前分數值
559     \scratchcounter\zerocount
560     \else
561     \scratchcounter\currentpoint
562     \fi
563     \ifenv_toplevel% 重置分數計算
564     \c_steppoint\zerocount
565     \c_steppoint_temp\zerocount
566     \fi

```

```

567 \global\c_steppoint_temp\scratchcounter
568 \ifnum\c_steppoint=0
569 \global\c_steppoint=\c_steppoint_temp
570 \else%
571 \global\c_steppoint=\numexpr\c_steppoint+\c_steppoint_temp\relax
572 \fi% 遞歸出總分數
573 \ifenv_toplevel% 如果有子題目，不應當計算 question 本身的分值，但這似乎增加了編譯次數
574 \edef\p_totalitemnumber{\datasetvariable{Answer_collector}{\QuestionID}{
575   totalnumber}}%
576 \doifelsesomething{\p_totalitemnumber}{\scratchcounter\p_totalitemnumber}{
577   \scratchcounter\zerocount}%
578 \writestatus{question info}{currentsteppoint is \the\c_steppoint ::\the
579   \c_steppoint_temp}%
580 % 不知道為什麼，但增加輸出 steppoint 可以獲取正確的最終計數。
581 \ifnum\scratchcounter>1\global\c_steppoint=\numexpr\c_steppoint-
582   \c_steppoint_temp\relax\fi
583 \xdef\currenttotalpoint{\number\currentpoint}%
584 \else%
585 \xdef\currenttotalpoint{\number\c_steppoint}%
586 \fi%
587 \fi
588 }

589 \def\install_answer[#1]{%
590 \edef\p_showanswer{\csname #1parameter\endcsname\c!showanswer}%
591 \ifempty\p_showanswer\else
592 \ifx\p_showanswer\s!true
593 \mode_showanswertrue
594 \else\mode_showanswerfalse
595 \fi\fi
596 \ifx\currentmode\c!answer
597 \ifdefined\currentanswer\edef\prevanswer{\currentanswer}\fi
598 \edef\p_answer{\csname #1parameter\endcsname\c!answer}%暫時定義
599 \ifenv_subwriting\edef\p_answer{\writingparameter\c!answer}\fi
600 \ifempty\p_answer
601 \edef\currentanswer{\prevanswer}%
602 \else%
603 \edef\currentanswer{\csname #1parameter\endcsname\c!answer}%
604 \ifdefined\prevanswer
605 \ifempty\prevanswer\else
606 \ifx\currentanswer\prevanswer\relax\else
607 \writestatus{question info}{%
608   \currentuserorder : Two conflicting answers have been detected,
609   check and delete unnecessary answers.}%
610 \writestatus{question info}{%
611   \string\prevanswer : \prevanswer .
612   \string\currentanswer : \currentanswer .}%
613 \fi
614 \fi
615 \fi
616 \fi

```



```

617 \fi}

618 \tolerant\protected\def\show_pointoranswer_text[#1]*[#2]{{
619 \unskip\csname #1parameter\endcsname{#2style}%
620 \switchtocolour[\csname #1parameter\endcsname{#2color}]%
621 \paren {\csname left_assigned#2label\endcsname % like=>answer : blabla
622 \ifx\currentmode\c!point% if #2 = point
623 \ifenv_toplevel
624 \point_totalpoint
625 \else
626 \ifenv_answer\point_point\else
627 \currentpoint\fi
628 \fi
629 \else% if #2 = answer. 因为 currentXXXanswer 是有定义内容的,
630 \ifmode_example You're in EXAMPLE MODE!\else
631 \ifenv_writing\short_writing_answer\else
632 \datasetvariable{Answer_collector}{\QuestionID}{answer}\fi
633 \fi% 直接獲取當前 QID 答案
634 \fi
635 \csname right_assigned#2label\endcsname}}}}

636 \def\p_assigned_currentlabel#1#2{%
637 \expandafter\edef%
638 \csname p_current#1#2label%
639 \expandafter\expandafter%
640 \expandafter\endcsname%
641 \expandafter\expandafter%
642 \expandafter{%
643 \csname #1parameter\endcsname{#2label}}}}

644 \def\p_pass_currentlabel[#1]{\p_assign_currentlabel[#1,,]}
645 \def\p_assign_currentlabel[#1,#2,#3]#4%
646 {\expandafter\def\csname left_assigned#4label\endcsname {#1}%
647 \expandafter\def\csname right_assigned#4label\endcsname {#2}}

648 \tolerant\protected\def\installpointoranswer[#1]*[#2]{%#1 parameter %#2 modename
649 \edef\currentmode{#2}% check point or answer
650 \install_point[#1]%
651 \install_answer[#1]%
652 \p_assigned_currentlabel{#1}{#2}%
653 \expandafter\expandafter%
654 \expandafter\p_pass_currentlabel%
655 \expandafter\expandafter%
656 \expandafter[%
657 \csname p_current#1#2label\endcsname]{#2}%
658 \begingroup
659 \csname ifmode_show#2\endcsname
660 \show_pointoranswer_text[#1][#2]%
661 \fi\endgroup}

662 \defineconversion[tnum][\addff{tabularnumbers}]
663 \protected\def\installitemgroupoption[#1][#2]{%

```



```

664 \setupitemgroup[env_#1][each][
665     \c!margin={\csname #2parameter\endcsname\c!margin},%
666     \c!leftmargin={\csname #2parameter\endcsname\c!leftmargin},%
667     \c!rightmargin={\csname #2parameter\endcsname\c!rightmargin},%
668     \c!leftmargindistance={\csname #2parameter\endcsname\c!leftmargindistance
669     },%
670     \c!rightmargindistance={\csname #2parameter\endcsname\c!rightmargindistance
671     },%
672     \c!indentnext={\csname #2parameter\endcsname\c!indentnext},%
673     \c!width={\csname #2parameter\endcsname\c!width},%
674     \c!factor={\csname #2parameter\endcsname\c!factor},%
675     \c!distance={\csname #2parameter\endcsname\c!distance},%
676     \c!step={\csname #2parameter\endcsname\c!step},%
677     \c!align={\csname #2parameter\endcsname\c!align},%
678     \c!symalign={\csname #2parameter\endcsname\c!symalign},%
679     \c!color={\csname #2parameter\endcsname\c!color},%
680     \c!indenting={\csname #2parameter\endcsname\c!indenting},%
681     \c!style={\csname #2parameter\endcsname\c!style},%
682     \c!marstyle={\csname #2parameter\endcsname\c!marstyle},%
683     \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
684     \c!headstyle={\csname #2parameter\endcsname\c!headstyle},%
685     \c!marcolor={\csname #2parameter\endcsname\c!marcolor},%
686     \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
687     \c!headcolor={\csname #2parameter\endcsname\c!headcolor},%
688     \c!beforehead={\csname #2parameter\endcsname\c!beforehead},%
689     \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
690     \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
691     \c!afterhead={\csname #2parameter\endcsname\c!afterhead},%
692     \c!before={\csname #2parameter\endcsname\c!before},%
693     \c!inbetween={\csname #2parameter\endcsname\c!inbetween},%
694     \c!after={\csname #2parameter\endcsname\c!after},%
695     \c!stopper={\csname #2parameter\endcsname\c!stopper},%
696     \c!placestopper={\csname #2parameter\endcsname\c!placestopper},%
697     \c!stopper={\csname #2parameter\endcsname\c!stopper},%
698     \c!inner={\csname #2parameter\endcsname\c!inner},%
699     \c!n={\csname #2parameter\endcsname\c!n},%
700     \c!items={\csname #2parameter\endcsname\c!items},%
701     \c!levels={\csname #2parameter\endcsname\c!levels},%
702     \c!lefttext={\csname #2parameter\endcsname\c!lefttext},%
703     \c!righttext={\csname #2parameter\endcsname\c!righttext},%
704     \c!left={\csname #2parameter\endcsname\c!left},%
705     \c!right={\csname #2parameter\endcsname\c!right},%
706     \c!packcriterium={\csname #2parameter\endcsname\c!packcriterium},%
707     \c!criterium={\csname #2parameter\endcsname\c!criterium},%
708     \c!textdistance={\csname #2parameter\endcsname\c!textdistance},%
709     \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator
710     },%
711     \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator
712     },%
713     \c!command={\csname #2parameter\endcsname\c!command},%
714     \c!indenting={\csname #2parameter\endcsname\c!indenting},%

```

```

715 \c!alignsymbol={\csname #2parameter\endcsname\c!alignsymbol},%
716 \c!symbol={\csname #2parameter\endcsname\c!symbol},%
717 \c!option={\csname #2parameter\endcsname\c!option},%
718 % \c!start={\csname #2parameter\endcsname\c!start},%
719 \c!start={\csname #2parameter\endcsname\c!start},%
720 \c!state={\csname #2parameter\endcsname\c!state},% % beware, ""
721 == start
722 \c!way={\csname #2parameter\endcsname\c!way},% % wont work if
723 continue on
724 \c!prefix={\csname #2parameter\endcsname\c!prefix},%
725 \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset
726 },%
727 \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion
728 },%
729 \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset
730 },%
731 \c!prefixstarter={\csname #2parameter\endcsname\c!prefixstarter},%
732 \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
733 \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
734 \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments},%
735 \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
736 \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector},
737 %
738 \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset
739 },%
740 \c!numberconversion={\csname #2parameter\endcsname\c!numberconversion
741 },%
742 \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset
743 },%
744 \c!numberstarter={\csname #2parameter\endcsname\c!numberstarter},%
745 \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
746 \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},
747 % \c!prefix={\csname #2parameter\endcsname\c!prefix},%
748 % \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
749 % \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset}%
750
751 % \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion}%
752
753 % \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset}%
754
755 % \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
756 % \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments}%
757
758 % \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector}%
759
760 % \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset}%
761
762 % \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset}%
763
764 % \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
765 % \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},

```

```
766         ]%  
767     }  
  
768     \protected\def\installcounteroption[#1][#2]{%  
769     \cdef\currentenv_counter{\v_strc_itemgroups_counter}%  
770 }
```



## 6 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.

```
\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
```

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

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`.

```
\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
```

1. (5pts) The environment is located in: env\_problem:1。
2. (answer:newer) The environment is located in: env\_problem:1。
3. The environment is located in: env\_problem:1。

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
```

1. 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

```

2. 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)(0pts)`

*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)(0pts)`

*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)(0pts)`

*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)(0pts)`

*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)(0pts)`

*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`

```

771 \installnamespace      {problem}
772 \installcommandhandler \????problem {problem} \????problem

773 \appendtoks
774   \setuevalue{\e!start\currentproblem}{\startnamedproblem[\currentproblem]}%
775   \setuevalue{\e!stop \currentproblem}{\stopnamedproblem}%
776 \to \everydefineproblem

777 \tolerant\protected\def\startnamedproblem[#S#1]#* [#S#2] {%
778   \scratchcounterone\currentitemnumber\relax
779   \begingroup\env_problemtrue\set_envitem_counter
780   \def\currentproblem{#1}\setupcurrentproblem[#2]%
781   \edef\p_defaultoption{n,packed,nowhite,joinedup}%
782   \edef\p_option{\problemparameter\c!option}
783   \installitemgroupoption[problem][problem]%

```

```

784 \startitemgroup[env_problem]%
785 \set_count_envlevel [problem]%
786 \ifenv_toplevel\else
787   \decreaseQuestionID
788   \parentitemnumber=\scratchcounterone\relax% 直接获取 question 的 ID
789 \fi\removeunwantedspaces}

790 \protected\def\stopnamedproblem{%
791   \installdatacollectorhelper%
792   \initcollectanswer
793   \stopitemgroup\endgroup}

794 \setupproblem
795 [\c!margin=\zeropoint,
796  \c!leftmargin=\zeropoint,
797  \c!rightmargin=\zeropoint,
798  \c!leftmargindistance=\zeropoint,
799  \c!rightmargindistance=\zeropoint,
800  \c!indentnext=\v!yes,
801  \c!width=.5\emwidth,
802  \c!factor=0,
803  \c!step=.5\emwidth, % deals with broad
804  \c!distance=.5\emwidth,
805  %\c!align=\v!normal, % definitely not \v!normal !
806  %\c!symalign=,
807  %\c!color=,
808  %\c!indenting=, % untouched if empty
809  %\c!style=,
810  \c!marstyle=\v!type,
811  %\c!symstyle=,
812  %\c!headstyle=,
813  %\c!marcolor=,
814  %\c!symcolor=,
815  %\c!headcolor=,
816  %\c!beforehead=,
817  \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
818  \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
819  \c!afterhead=\blank,
820  \c!before=,
821  \c!inbetween=,
822  \c!after=,
823  %\c!stopper=.,
824  \c!placestopper=\v!yes,
825  \c!stopper={. },
826  %\c!inner=,
827  \c!n=2,
828  \c!items=4,
829  \c!levels=10,
830  \c!lefttext={ (},
831  \c!righttext={ ) },
832  \c!start=1,

```



```

833 \c!packcriterium=\zerocount,
834 \c!criterium=\v!all, % permits 0 and negative numbers
835 \c!option={n,packed,joinedup,nowhite},
836 \c!textdistance=\v!space, % none big medium small <dimension>
837 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
838 %\c!lasttextseparator=,
839 \c!command=\strc_itemgroups_default_command,
840 \c!indenting=\v!next,
841 %\c!alignsymbol=v!no,
842 \c!symbol=\currentitemlevel,
843 \c!prefix=\v!no,
844 %\c!prefixstopper=.,
845 %\c!prefixseparatorset=,
846 %\c!prefixconversion=,
847 %\c!prefixconversionset=,
848 %\c!prefixset=,
849 %\c!prefixsegments=1:100,
850 \c!prefixconnector=.,
851 \c!numberseparatorset=,
852 \c!numberconversionset=,
853 \c!numberstopper=.,
854 \c!numbersegments=1,
855 \c!numberconversion=tnum,]

856 \defineproblem[problem]

```



## 7 设置 question 环境

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。}
```

3. The environment is located in: `env_question:1`。
  4. The environment is located in: `env_question:1`。
  5. 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,nowwhite,}]
\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：

<code>showanswer</code>	<code>answer</code>	<code>answerstyle</code>	<code>answercolor</code>
		<code>answerlabel</code>	<code>answerlabel</code>
<code>showpoint</code>	<code>point</code>	<code>pointstyle</code>	<code>pointcolor</code>
		<code>pointprelabel</code>	<code>pointlabel</code>

```
\startquestion[showpoint=true,point=5,pointlabel={points},
  showanswer=true,answer={new answer},answerstyle={\tt},]
  The environment is located in: \currentitemgroup。
\stopquestion
```

- 23.(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。

關於 **point** 和 **answer** 的設定: point 的分值默認是一整個題目的總分數。如果當前字環境為 **problem**, 只要為每個 pitem 設計了 point 的分值, 該模塊就會自動計算。answer 的獲取也是一樣。在設計時, pitem 默認是擁有多個同級項目的。也就是說, 會在同一個 question 環境中, 有多個子答案。我們無法獲知應該使用哪一個作為當前環境的答案。同樣的道理, 每個 question 環境內只有一個 choice 環境, 只需要直接為 question 環境配置分值即可。choice 環境並不能配置分數。

```

857 \installnamespace      {question}
858 \installcommandhandler \????question {question} \????question

859 \appendtoks
860   \setuevalue      {\currentquestion}{\directnamedquestion[\currentquestion]}%
861   \setuevalue{\e!start\currentquestion}{\startnamedquestion [\currentquestion]}%
862   \setuevalue{\e!stop \currentquestion}{\stopnamedquestion}%
863 \to \everydefinequestion

864 \tolerant\protected\def\directnamedquestion[#S#1]#* [#S#2] {%
865   \groupedcommand{\startnamedquestion[#1] [#2]}%
866   {\stopnamedquestion}}

867 \tolerant\protected\def\startnamedquestion[#S#1]#* [#S#2] %
868 {\begingroup\env_questiontrue\set_envitem_counter%%
869  \def\currentquestion{#1}\setupcurrentquestion[#2]%
870  \example_toggle[question]% 用於測試是否開啟 example_mode
871  \edef\p_class{\questionparameter\c!class}%
872  \edef\p_start{\questionparameter\c!start}%
873  \edef\p_reset{\questionparameter\c!reset}%
874  \edef\p_option{\questionparameter\c!option}%
875  \edef\p_defaultoption{n,packed,nowhite,joinedup,continue}%
876  \edef\p_class_optclose{optclose}%
877  \ifx\p_class\p_class_optclose
878    \env_closetrue\set_envitem_counter
879  \fi
880  \ifx\p_reset\s!true
881    \resetcounter[itemgroup:env_question]%
882  \fi
883  \installitemgroupoption[question][question]%
884  \startitemgroup[env_question]%
885  \ifx\p_class\p_class_optclose
886    \leftskip=0pt\relax
887  \else
888    \item[\questionparameter\c!reference]%
889    \increaseQuestionID% 具有獨立答案, 增長 QID
890  \fi
891  \set_count_envlevel [question]%
892  \ifx\p_class\p_class_optclose\else
893    \installpointoranswer[question][point]%
894    \installpointoranswer[question][answer]\fi
895    \save_question_order\removeunwantedspaces}

896 \protected\def\stopnamedquestion{%
897   \ifnum\c_envcounter_toggle=1\relax
898   \installdatacollectorhelper%
```

```

899 \installdatacollector\fi%
900 \initcollectanswer
901 \stopitemgroup\endgroup%
902 \ifnum\c_envcounter_toggle=999\relax%
903 \resetcounter [itemgroup:env_question]%
904 \fi}

905 \definequestion[question]

906 \setupquestion
907 [%example=,
908 %showpoint=false,
909 %point=,
910 pointstyle=\ttx,
911 %pointcolor=,
912 %pointprelabel=,
913 pointlabel={,\examtexts{point}},
914 %showanswer=false,
915 %answer=,
916 answerlabel={,\examtexts{answer}},
917 answerstyle=\ss,
918 answercolor=red,
919 indenting=no,
920 way=bychapter,
921 numberconversion=tnum,]

922 \setupquestion
923 [\c!margin=\zeropoint,
924 \c!leftmargin=\zeropoint,
925 \c!rightmargin=\zeropoint,
926 \c!leftmargindistance=\zeropoint,
927 \c!rightmargindistance=\zeropoint,
928 \c!indentnext=\v!yes,
929 \c!width=1.5\emwidth,
930 \c!factor=0,
931 \c!step=.5\emwidth, % deals with broad
932 \c!distance=\zeropoint,
933 %\c!align=\v!normal, % definitely not \v!normal !
934 %\c!symalign=,
935 %\c!color=,
936 %\c!indenting=, % untouched if empty
937 %\c!style=,
938 \c!marstyle=\v!type,
939 %\c!symstyle=,
940 %\c!headstyle=,
941 %\c!marcolor=,
942 %\c!symcolor=,
943 %\c!headcolor=,
944 %\c!beforehead=,
945 \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
946 \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
947 \c!afterhead=\blank,

```

```

948 \c!before=,
949 \c!inbetween=,
950 \c!after=,
951 %\c!stopper=.,
952 \c!placestopper=\v!yes,
953 \c!stopper={. . },
954 %\c!inner=,
955 \c!n=2,
956 \c!items=4,
957 \c!levels=10,
958 \c!lefttext=,
959 \c!righttext=,
960 \c!start=1,
961 \c!packcriterion=\zerocount,
962 \c!criterion=\v!all, % permits 0 and negative numbers
963 \c!option={n,packed,joinedup,nowhite,continue},
964 \c!textdistance=\v!space, % none big medium small <dimension>
965 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
966 %\c!lasttextseparator=,
967 \c!command=\strc_itemgroups_default_command,
968 \c!indenting=\v!next,
969 %\c!alignsymbol=v!no,
970 \c!symbol=\currentitemlevel,
971 \c!prefix=\v!no,
972 %\c!prefixstopper=.,
973 %\c!prefixseparatorset=,
974 %\c!prefixconversion=,
975 %\c!prefixconversionset=,
976 %\c!prefixset=,
977 %\c!prefixsegments=1:100,
978 \c!prefixconnector=.,
979 \c!numberseparatorset=,
980 \c!numberconversionset=,
981 \c!numberstopper=.,
982 \c!numbersegments=1]

```

## 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
```

24. (answer:A,C) The environment is located in: env\_question:1。  
 A. **Some Words**                      B. Some Words                      C. **Some Words**                      D. Some Words
25. (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**
26. (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 calculated max width of choice and waited to be compare, notice this key is maxiwidth ,and difference from maxwidth which for setupitemgroup command

```

983 \installnamespace {choice}
984 \installcommandhandler \????choice {choice} \????choice

985 \appendtoks
986 \setuevalue {\currentchoice}{\directnamedchoice[\currentchoice]}%
987 \setuevalue{\e!start\currentchoice}{\startnamedchoice [\currentchoice]}%
988 \setuevalue{\e!stop \currentchoice}{\stopnamedchoice}%
989 \to \everydefinechoice

990 \setupchoice [answerstyle=\ss\tf,
991             answercolor=red,
992             inlinechoice=false,
993             point=\questionparameter\c!point,
994             maxiwidth=.9\textwidth,
995             numberconversion=A,]

996 \tolerant\protected\def\directnamedchoice[#1]#*[#2]#*#:#3%
997 {\begingroup
998 \def\currentchoice{#1}\setupcurrentchoice[#2]%
999 \startnamedchoice[#1]%
1000 \def\citem_temp#1{\startcitem#1\stopcitem}%
1001 \def\correct##1{##1\collectanswer{##1}}%
1002 \processcommacommand[#3]\citem_temp
1003 \stopnamedchoice\endgroup}

1004 \tolerant\protected\def\startnamedchoice[#S#1]#*[#S#2]%
1005 {\begingroup\def\currentchoice{#1}%
1006 \ifnum\c_envcounter_toggle = 2\relax
1007 \errmessage{you cannot put choice in problem environment.}
1008 choice env can only be putted in question environment.}\fi
1009 \env_choicetrue\set_envitem_counter
1010 \ifdefined\currentuserorder
1011 \expandafter\show_check_info{\check_info}%
1012 \else
1013 \ifnum\c_envcounter_toggle = 3\relax
1014 \else \set_count_envlevel[choice]\fi
1015 \fi
1016 \doifelsesomething{\datasetvariable{Answer_collectorhelper}{\HelperID}{
1017 totalitemnumber}}% arg_1
1018 {\scratchcounter\datasetvariable{Answer_collectorhelper}{\HelperID}{
1019 totalitemnumber}}% arg_2
1020 {\scratchcounter\zerocount}% arg_3
1021 \current_total_choice_number=\number\scratchcounter\relax

```



```

1022 \doifelsomething{\datasetvariable{Answer_collectorhelper}{\HelperID}{
1023   availablecolumns}}}%
1024   {\scratchcounter\datasetvariable{Answer_collectorhelper}{\HelperID}{
1025     availablecolumns}}}%
1026   {\scratchcounter\zerocount}}%
1027 \current_available_columns=\number\scratchcounter\relax
1028 \startluacode
1029 tbl_num_temp = {"one","two","three","four",
1030               "five","six","seven","eight","nine"}
1031 local tbl_cit_count = tex.count['current_total_choice_number']
1032 local available_columns = tex.count['current_available_columns']
1033 available_columns_arg = ""
1034 if (tbl_cit_count == 3) and (available_columns < tbl_cit_count)
1035 then available_columns_arg = "one"
1036 elseif (tbl_cit_count > 1) and (available_columns >= tbl_cit_count)
1037 then available_columns_arg = "horizontal," .. tbl_num_temp[tbl_cit_count]
1038 elseif (tbl_cit_count >= 1) and (available_columns <= 1 )
1039 then available_columns_arg = "one"
1040 else available_columns_arg = "horizontal,two"
1041 end
1042 \stopluacode
1043 \edef\currentrealavailablecolumns{\ctxlua{context(available_columns_arg,"")}}}%
1044 \setupcurrentchoice[#2]%
1045 \edef\currentanswer {\choiceparameter\c!answer }%
1046 \edef\p_option {\choiceparameter\c!option }%
1047 \edef\p_showanswer {\choiceparameter\c!showanswer }%
1048 \edef\p_choicetype {\choiceparameter\c!inlinechoice}%
1049 \edef\p_correctsymbol{\choiceparameter{correctsymbol}}}%
1050 \edef\p_defaultoption{A,packed,nowhite,joinedup}%
1051 \installitemgroupoption[choice][choice]%
1052 \ifx\p_choicetype\s!true
1053 \startitemgroup[env_choice][text,\p_option]\else
1054 \startitemgroup[env_choice][\ctxlua{context(available_columns_arg,"")},
1055 \p_option]\fi
1056 \choiceparameter\c!inlineleft
1057 \ifmode_showanswer\else
1058 \ifx\p_showanswer\s!true
1059 \mode_showanswertrue
1060 \else\mode_showanswerfalse\fi
1061 \fi\removeunwantedspaces}

1062 \protected\def\stopnamedchoice{%
1063 \removemarkedcontent[inlinechoice_punctuation]%
1064 \d_maxwidth_with_label = \dimexpr\d_width_cit_max +
1065 \d_strc_itemgroups_list_width \relax
1066 \d_compared_maxwidth = \choiceparameter{maxiwidth} \relax
1067 \startluacode
1068 local a = tex.dimen['d_compared_maxwidth']
1069 local b = tex.dimen['d_maxwidth_with_label']
1070 c = math.floor(a/b)
1071 \stopluacode

```

```

1072 \edef\currentchoiceanswer{\collectedanswer}%
1073 \ifempty\currentchoiceanswer
1074 \edef\currentanswer{\prevanswer}% 讓 choice 繼承前一個答案
1075 \else
1076 \edef\currentanswer{\collectedanswer}%
1077 \fi
1078 \def\currentavailablecolumns{\ctxlua{context(c,"")}}%
1079 \def\currentitemmaxwidth {\the\d_width_cit_max}%
1080 \doifelsomething{\choiceparameter\c!point}%
1081 {\scratchcountertwo\choiceparameter\c!point}%
1082 {\scratchcountertwo\zerocount}%
1083 \edef\currentpoint {\the\scratchcountertwo}%
1084 \edef\currenttotalpoint{\the\scratchcountertwo}%
1085 \installdatacollector%
1086 \installdatacollectorhelper%
1087 \initcollectanswer
1088 \choiceparameter\c!inlineright
1089 \stopitemgroup
1090 \endgroup}

1091 \setupchoice
1092 [\c!margin=\zeropoint,
1093 \c!leftmargin=\zeropoint,
1094 \c!rightmargin=\zeropoint,
1095 \c!leftmargindistance=\zeropoint,
1096 \c!rightmargindistance=\zeropoint,
1097 \c!indentnext=\v!yes,
1098 \c!width=1\emwidth,
1099 \c!factor=0,
1100 \c!step=.5\emwidth, % deals with broad
1101 \c!distance=.5\emwidth,
1102 %\c!align=\v!normal, % definitely not \v!normal !
1103 %\c!symalign=,
1104 %\c!color=,
1105 %\c!indenting=, % untouched if empty
1106 %\c!style=,
1107 \c!marstyle=\v!type,
1108 %\c!symstyle=,
1109 %\c!headstyle=,
1110 %\c!marcolor=,
1111 %\c!symcolor=,
1112 %\c!headcolor=,
1113 %\c!beforehead=,
1114 \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
1115 \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
1116 \c!afterhead=\blank,
1117 \c!before=,
1118 \c!inbetween=,
1119 \c!after=,
1120 %\c!stopper=.,
1121 \c!placestopper=\v!yes,

```

```

1122 \c!stopper={. },
1123 %\c!inner=,
1124 \c!n=2,
1125 \c!items=4,
1126 \c!levels=10,
1127 \c!lefttext=,
1128 \c!righttext=,
1129 \c!start=1,
1130 \c!packcriterium=\zerocount,
1131 \c!criterium=\v!all, % permits 0 and negative numbers
1132 \c!option={A,packed,joinedup,nowhite,},
1133 \c!textdistance=\v!space, % none big medium small <dimension>
1134 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1135 %\c!lasttextseparator=,
1136 \c!command=\strc_itemgroups_default_command,
1137 \c!indenting=\v!next,
1138 %\c!alignsymbol=v!no,
1139 \c!symbol=\currentitemlevel,
1140 \c!prefix=\v!no,
1141 %\c!prefixstopper=.,
1142 %\c!prefixseparatorset=,
1143 %\c!prefixconversion=,
1144 %\c!prefixconversionset=,
1145 %\c!prefixset=,
1146 %\c!prefixsegments=1:100,
1147 \c!prefixconnector=.,
1148 \c!numberseparatorset=,
1149 \c!numberconversionset=,
1150 \c!numberstopper=.,
1151 \c!numbersegments=1]

1152 \definechoice[choice]
1153 \definechoice[inlinechoice]
1154 \tolerant\def\setupinlinechoice[#1]{\setupchoice[inlinechoice][#1]}

1155 \setupinlinechoice[option={text,8,packed,joinedup,nowhite,},
1156     inlinechoice=\s!true,
1157     correctsymbol={\symbol{marksquarecheck}},
1158     inlineleft={ (\nobreak},
1159     inlineright={\nobreak ) },
1160     %lefttext={},
1161     %righttext={},
1162     answerstyle=\ss,
1163     %stopper=,
1164     %showanswer=,% shoule be empty before used
1165     separator={\removeunwantedspaces,\space},
1166 ]

```



## 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，当一个作文体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
```

27. (45pts)(参见参考作文。)作文题目说明

(answer:参见参考作文。)(45pts)  
参考作文 1

28. (5038pts)(参见参考作文。)作文题目说明

1. (450pts)(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)(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

```
1167 \installnamespace      {writing}
1168 \installcommandhandler \???writing {writing} \???writing

1169 \appendtoks
1170   \setuevalue{\e!start\currentwriting}{\startnamedwriting[\currentwriting]}%
1171   \setuevalue{\e!stop \currentwriting}{\stopnamedwriting}%
1172 \to \everydefinewriting
```

```

1173 \tolerant\protected\def\startnamedwriting[#S#1]#*[#S#2]
1174 {\begingroup\env_writingtrue\set_envitem_counter
1175 \edef\currentwriting{#1}%
1176 \setupanswer[showanswer=false]%
1177 \setupcurrentwriting[#2]%注意, writing 没有单独的 itemgroup 环境
1178 \edef\short_writing_answer{\writingparameter\c!answer}%
1179 \edef\currentanswer{\writingparameter\c!answer}%
1180 \edef\getanswercontent{}}%
1181 \edef\p_writingtype{\writingparameter{subwriting}}}%
1182 \installitemgroupoption[question][writing]%
1183 \startitemgroup[env_question]%
1184 \item[\writingparameter\c!reference]%
1185 \ifx\p_writingtype\s!true
1186 \env_subwritingtrue
1187 \set_envitem_counter
1188 \ifnum\currentitemnumber=1\relax
1189 \decreaseQuestionID\increaseQuestionID
1190 \else\increaseQuestionID\fi
1191 \set_count_itemlevel[subwriting]%
1192 % 当具有多个子写作环境时, 才增长 QID ,
1193 % 否则削减至父级 QID (相当于继承)
1194 \else
1195 \increaseQuestionID
1196 \set_count_envlevel[writing]
1197 \fi
1198 \installpointoranswer[writing][point]%
1199 \installpointoranswer[writing][answer]%
1200 \save_question_order\removeunwantedspaces}

1201 \protected\def\stopnamedwriting{%
1202 \ifnum\c_totalitemnumber<2\relax% 只有一个子项目
1203 \ifenv_subwriting% 是子作文
1204 \installdatacollector%
1205 \installdatacollectorhelper%
1206 \initcollectanswer
1207 \else% 是作文
1208 \edef\currentpoint{\writingparameter\c!point}
1209 \edef\currenttotalpoint{\writingparameter\c!point}
1210 \c_totalitemnumber=1\relax
1211 \installdatacollector%
1212 \installdatacollectorhelper%
1213 \initcollectanswer
1214 \fi
1215 \else% 拥有多个子项目
1216 \fi\stopitemgroup\endgroup}

1217 \setupwriting
1218 [\c!answer={参见参考作文。},
1219 \c!pointlabel={},\examtexts{point}},
1220 \c!margin=\zeropoint,
1221 \c!leftmargin=\zeropoint,

```

```

1222 \c!rightmargin=\zeropoint,
1223 \c!leftmargindistance=\zeropoint,
1224 \c!rightmargindistance=\zeropoint,
1225 \c!indentnext=\v!yes,
1226 \c!width=1.5\emwidth,
1227 \c!factor=0,
1228 \c!step=.5\emwidth, % deals with broad
1229 \c!distance=\zeropoint,
1230 %\c!align=\v!normal, % definitely not \v!normal !
1231 %\c!symalign=,
1232 %\c!color=,
1233 %\c!indenting=, % untouched if empty
1234 %\c!style=,
1235 \c!marstyle=\v!type,
1236 %\c!symstyle=,
1237 %\c!headstyle=,
1238 %\c!marcolor=,
1239 %\c!symcolor=,
1240 %\c!headcolor=,
1241 %\c!beforehead=,
1242 \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
1243 \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
1244 \c!afterhead=\blank,
1245 \c!before=,
1246 \c!inbetween=,
1247 \c!after=,
1248 %\c!stopper=.,
1249 \c!placestopper=\v!yes,
1250 \c!stopper={. },
1251 %\c!inner=,
1252 \c!n=2,
1253 \c!items=4,
1254 \c!levels=10,
1255 \c!lefttext=,
1256 \c!righttext=,
1257 \c!start=1,
1258 \c!packcriterion=\zerocount,
1259 \c!criterion=\v!all, % permits 0 and negative numbers
1260 \c!option={n,packed,joinedup,nowhite,continue},
1261 \c!textdistance=\v!space, % none big medium small <dimension>
1262 \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1263 %\c!lasttextseparator=,
1264 \c!command=\strc_itemgroups_default_command,
1265 \c!indenting=\v!next,
1266 %\c!alignsymbol=\v!no,
1267 \c!symbol=\currentitemlevel,
1268 \c!prefix=\v!no,
1269 %\c!prefixstopper=.,
1270 %\c!prefixseparatorset=,
1271 %\c!prefixconversion=,
1272 %\c!prefixconversionset=,

```

```

1273 %\c!prefixset=,
1274 %\c!prefixsegments=1:100,
1275 \c!prefixconnector=.,
1276 \c!numberseparatorset=,
1277 \c!numberconversionset=,
1278 \c!numberstopper=.,
1279 \c!numbersegments=1]

1280 \definewriting[writing]
1281 \definewriting[subwriting]
1282 \def\setupsubwriting{\setupwriting[subwriting]}
1283 \setupsubwriting
1284 [answer={参见参考作文。},
1285 subwriting=true,
1286 pointlabel={,\examtexts{point}},]

```



## 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 sctipt，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
```

29.(answer:) 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:)(pts)

*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.*

30.(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)(1pts)

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

```

31. (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)(10pts)

*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)(20pts)

*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)(30pts)

*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.*

```

1287 \installnamespace {answer}
1288 \installnamespace {answeralternative}
1289 \installnamespace {answerrenderings}

1290 \installcommandhandler \????answer {answer} \????answer
1291 \installcommandhandler \? ? ? ?answeralternative {answeralternative}
1292 \????answeralternative

1293 \appendtoks
1294 \frozen\instance\protected\edefcsname \currentanswer\endcsname{
1295 \answer_direct_instance}%
1296 \frozen\protected\instance\edefcsname\!start\currentanswer\endcsname{
1297 \answer_start_instance [\currentanswer]}%

```

```

1298 \frozen\protected\instance\letcsname \e!stop \currentanswer\endcsname
1299 \answer_stop_instance
1300 \to \everydefineanswer

1301 \definesystemconstant{answer}

1302 \tolerant\protected\def\answer_direct_instance[#S#1]#:#2%
1303 {\begingroup
1304 \cdef\currentanswer{#1}%
1305 \doif{answerparameter{showanswer}}{true}{\mode_showanswertrue}%
1306 \ifmode_showanswer
1307 \useanswerstyleandcolor\c!style\c!color
1308 \answerparameter\s!command
1309 {#2}
1310 \fi
1311 \endgroup
1312 \edef\currentanswer{#2\collectanswer{#2}}
1313 \edef\prevanswer {\currentanswer}
1314 % 只有一個功能，收集答案。
1315 % 具備簡單的樣式控制和控制答案顯隱。
1316 % \setupanswer[command=\groupedcommand{\bf}{},style=,color=,showanswer=]

1317 \permanent\protected\def\startanswer
1318 {\begingroup
1319 \edef\currentanswer_bak{\currentanswer}%
1320 \lettonothing\currentanswer
1321 \doifelsenextoptionalcs\answer_start_delayed\answer_start_indeed}

1322 \def\answer_start_delayed[#S#1]%
1323 {\doifelseassignmentcs{#1}%
1324 \answer_start_delayed_parameters
1325 \answer_start_delayed_name
1326 [#1]}

1327 \def\answer_start_delayed_parameters[#S#1]%
1328 {\setupcurrentanswer[#1]%
1329 \answer_start_indeed}

1330 \def\answer_start_delayed_name[#1]%
1331 {\cdef\currentanswer{#1}%
1332 \checkanswerparent
1333 \doifelsenextoptionalcs\answer_start_delayed_parameters\answer_start_indeed}

1334 \protected\tolerant\def\answer_start_instance[#S#1]#*[#S#2]%
1335 {\begingroup\env_answertrue\set_envitem_counter
1336 \edef\currentanswer_bak{\currentanswer}% 備份之前的答案
1337 % \lettonothing\currentanswer%釋放currentanswer
1338 \cdef\currentanswer{#1}%
1339 \setupcurrentanswer[#2]%
1340 \grabbufferdatadirect
1341 % {\s!answer:\currentanswer}%
1342 {\s!answer}% unnested, as before
1343 {\e!start\currentanswer}%

```

```

1344     {\e!stop \currentanswer}}

1345 \def\answer_start_indeed
1346 {\grabbufferdatadirect
1347 % {\s!answer:\currentanswer}%
1348 {\s!answer}% unnested, as before
1349 {\csstring\startanswer}%
1350 {\csstring\stopanswer}}

1351 \permanent\protected\def\stopanswer
1352 {\answerparameter\c!before
1353 \dostarttagged\t!answer\currentanswer
1354 \begingroup
1355 \useanswerstyleandcolor\c!style\c!color
1356 \usealignparameter\answerparameter
1357 \edef\currentansweralternative{\answerparameter\c!alternative}%
1358 \ifcsname\currentansweralternativehash\s!parent\endcsname \else
1359 \let\currentansweralternative\s!default
1360 \fi
1361 \usesetupparameter\answerparameter
1362 \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1363 \directsetup\p_renderingsetup
1364 \tolerant\protected\xdef\getanswercontent[##1]% only for writing env
1365 {\getbufferdata[\s!answer]}%
1366 \endgroup
1367 \dostoptagged
1368 \answerparameter\c!after
1369 \endgroup}

1370 \aliased\let\answer_stop_instance\stopanswer

1371 \permanent\tolerant\protected\def\getanswer [##1]{\getbufferdata[\s!answer]}
1372 \permanent\tolerant\protected\def\getinlineanswer[##1]{\inlinebuffer [\s!answer]}

1373 \defineansweralternative
1374 [\s!default]
1375 [\c!renderingsetup=????answerrenderings:\s!default]

1376 \startsetups[????answerrenderings:\s!default]
1377 \doif{\answerparameter {showscript}}{true}{\mode_showscripttrue
1378 \mode_showanswerfalse}%
1379 \doif{\answerparameter\c!showanswer} {true}{\mode_showanswertrue
1380 \mode_showscriptfalse}%
1381 \doif{\answerparameter\c!showpoint} {true}{\mode_showpointtrue}%
1382 \startenv_answer
1383 \useanswerstyleandcolor\c!style\c!color
1384 \ifenv_material% 可以用来做文章翻译或内容解释,
1385 \getanswer% % 也可以直接放置在文章之后, 或这每一个段落之后
1386 \else
1387 \ifmode_showscript
1388 \answerparameter{scriptcontent}%
1389 \else
1390 \noindent

```

```

1391 \begingroup
1392 \edef\currentmode{answer}%
1393 \p_assigned_currentlabel{answer}{answer}%
1394 \expandafter\expandafter%
1395 \expandafter\p_pass_currentlabel%
1396 \expandafter\expandafter%
1397 \expandafter[%
1398 \csname p_currentansweranswerlabel\endcsname]{answer}%
1399 \ifmode_showanswer
1400 \show_pointoranswer_text[answer][answer]%
1401 \fi\endgroup
1402 \begingroup
1403 \edef\currentmode{point}%
1404 \p_assigned_currentlabel{answer}{point}%
1405 \expandafter\expandafter%
1406 \expandafter\p_pass_currentlabel%
1407 \expandafter\expandafter%
1408 \expandafter[%
1409 \csname p_currentanswerpointlabel\endcsname]{point}%
1410 \ifmode_showpoint
1411 \show_pointoranswer_text[answer][point]%
1412 \fi\endgroup
1413 \ifmode_showanswer
1414 \answerparameter\c!inbetween
1415 \getanswer
1416 \fi
1417 \fi
1418 \fi
1419 \stopenv_answer
1420 \stopsetups

1421 \tolerant\protected\def\startoldanswer[#1]#:#2\stopoldanswer%
1422 {\begingroup\env_answertrue\set_envitem_counter
1423 \lettonothing\currentanswer%釋放currentanswer
1424 \lettonothing\getanswer\lettonothing\getinlineanswer
1425 % currentanswer 命令已經被其他環境定義為答案獲取命令，
1426 % 此處的 currentanswer 是定義環境命令，需要重新釋放。
1427 \cdef\currentanswer{#1}%
1428 \setupcurrentanswer[#2]%
1429 \edef\getanswer{#2}%
1430 \usesetupsparameter\answerparameter
1431 \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1432 \directsetup\p_renderingsetup
1433 \tolerant\protected\xdef\getanswercontent[##1]% only for writing env
1434 {#2}%
1435 \endgroup}

1436 \setuptextbackground
1437 [env_answer]
1438 [location=paragraph,width=local,
1439 leftoffset=1ex,rightoffset=1ex,

```

```

1440 %topoffset=.5ex,bottomoffset=.5ex,
1441 before={\leftskip=0pt\startnarrower},
1442 after={\stopnarrower},
1443 background=\answerparameter\c!background,
1444 backgroundcolor=\answerparameter\c!backgroundcolor,
1445 corner=\answerparameter\c!corner,
1446 frame=\answerparameter\c!frame,
1447 framecolor=\answerparameter\c!framecolor,
1448 rulethickness=\answerparameter\c!rulethickness,
1449 ]

1450 \setupanswer
1451 [showanswer=true,
1452 showpoint=true,
1453 answer=\getanswerforanswer,
1454 point=\getpointforanswer,
1455 answerlabel={{\examtexts{answer}}},
1456 pointlabel={,\examtexts{point}},
1457 pointstyle=\answerparameter\c!style,
1458 pointcolor=\answerparameter\c!color,
1459 answerstyle=\answerparameter\c!style,
1460 answercolor=\answerparameter\c!color,
1461 style=\ss\it,
1462 before=\blank[halflin],
1463 after=\blank[halflin],
1464 inbetween={\par},
1465 showscript=false,
1466 %scriptcontent={},
1467 \c!alternative=\s!default,
1468 background=normalframeOL,%% for env_answer textbackground
1469 %backgroundcolor=,
1470 %corner=,
1471 frame=on,
1472 %framecolor=,
1473 %rulethickness=,
1474 ]
1475 \defineanswer[answer]

```

## 11 设置 pitem,citem 命令

```

1476 \installnamespace {pitem}
1477 \installsimplecommandhandler \????pitem {pitem} \????pitem

1478 \setuppitem [%showpoint=,
1479             %point=,
1480             pointstyle=\ttx,
1481             %pointcolor=,
1482             pointlabel={,\examtexts{point}},
1483             answerlabel={,\examtexts{answer},},
1484             %showanswer=,
1485             %answer=,
1486             answerstyle=\ss,
1487             answercolor=red,
1488             %reference=,
1489             ]

1490 \tolerant\protected\def\startpitem[#1]{\begingroup%
1491 \item_pitemtrue\increaseQuestionID%
1492 \iffirstargument\setuppitem[#1]\fi%
1493 \startitem[\pitemparameter{reference}]%
1494 \ifenv_question% 設計上的問題, 此時 pitem 處於 botlevel, 否則處於 toplevel.
1495 \set_count_itemlevel [pitem]\else\ifenv_problem%
1496 \set_count_envlevel [pitem]\fi\fi%
1497 \installpointoranswer[pitem][point]%
1498 \installpointoranswer[pitem][answer]%
1499 \removeunwantedspaces}

1500 \def\stoppitem{%
1501 \ifitem_fillin\edef\currentanswer{\collectedanswer}\fi
1502 \installdatacollector%
1503 \installdatacollectorhelper%
1504 \initcollectanswer% 清空收集 fillin 的答案
1505 \stopitem\endgroup}

[*](用于标记正确答案)

1506 \installnamespace {citem}
1507 \installsimplecommandhandler \????citem {citem} \????citem

1508 \setupcitem[
1509 %style=,
1510 %color=,
1511 ]

1512 \protected\def\check_correct_choice#1#2{%
1513 \usecitemstyleandcolor\c!style\c!color
1514 \ifmode_showanswer
1515 \edef\p_correctmark_m{*}\edef\p_correctmark_p{#1}%
1516 \ifx\p_correctmark_p\p_correctmark_m
1517 \edef\p_answerstyle{\choiceparameter\c!answerstyle}%
1518 \edef\p_answercolor{\choiceparameter\c!answercolor}%

```

```

1519 \ifx\p_choicetype\s!true
1520 \bgroup
1521 \ifempty\p_answerstyle
1522 \questionparameter\c!answerstyle
1523 \else\choiceparameter \c!answerstyle\fi
1524 \ifempty\p_answercolor
1525 \switchtocolour[\questionparameter\c!answercolor]%
1526 \else \switchtocolour[\choiceparameter \c!answercolor]\fi
1527 \sym{\ifempty\p_correctsymbol\symbol{marksquarecheck}\else
1528 \p_correctsymbol\fi}% correct inline choice
1529 #2\collectanswer{#2}\egroup
1530 \else
1531 \startitem[\citemparameter\c!reference]{%
1532 \ifempty\p_answerstyle
1533 \questionparameter\c!answerstyle
1534 \else\choiceparameter \c!answerstyle\fi
1535 \ifempty\p_answercolor
1536 \switchtocolour[\questionparameter\c!answercolor]%
1537 \else \switchtocolour[\choiceparameter \c!answercolor]\fi
1538 #2}
1539 \stopitem% correct normal choice
1540 \fi
1541 \else
1542 \startitem[\citemparameter\c!reference]#2\stopitem% correct choice without *
1543 \fi
1544 \else
1545 \startitem[\citemparameter\c!reference]#2\stopitem% choice
1546 \fi
1547 \ifx\p_choicetype\s!true
1548 \markcontent[inlinechoice_punctuation]{\choiceparameter\c!separator}%
1549 \fi}

1550 \protected\def\get_citem_text[#1]{\setbox0=\hbox{#1}%
1551 \d_width_cit = \the\wd0\relax%relax is neccessary
1552 \ifdim \d_width_cit_max > \d_width_cit%
1553 \d_width_cit_max = \d_width_cit_max%
1554 \else \d_width_cit_max = \d_width_cit%
1555 \fi}%%%% 遞歸計算出最大寬度

1556 \tolerant\protected\def\startcitem[#1]#*[#2]#:#3\stopcitem{% #1 correct answer
1557 \ifsecondargument\setupcitem[#2]\fi% #2 option
1558 \get_citem_text[#3]% #3 choice content
1559 \edef\p_correctmark_p{#1}\edef\p_correctmark_m{*}%
1560 \incrementitemnumber
1561 \ifx\p_choicetype\s!true\else
1562 \ifx\p_correctmark_p\p_correctmark_m
1563 \edef\currentanswerindex{\the\c_currentitemnumber}
1564 \edef\correct_choice_index{\convertnumber{\choiceparameter{numberconversion}}{
1565 \currentanswerindex}}%
1566 \collectanswer{\correct_choice_index}% collect current normal answer
1567 \fi\fi

```



```
1568 \doif{#1}{*}{\choice_checktrue}%  
1569 \check_correct_choice{#1}{#3}%  
1570 \removeunwantedspaces}
```



## 12 定义同义命令

32.(answer:F,C)

A. a

B. F

C. E

33.(answer:F,sF) ( ☐ a, ☐ F, ☒ sF )

```

1571 \def\pitem{\dosingleempty\pitem_indeed}
1572 \def\pitem_indeed[#1]#2{
1573   \startpitem[#1]{#2}\stoppitem}

1574 \def\citem{\dosingleempty\citem_indeed}
1575 \def\citem_indeed[#1]#2{%
1576   \startcitem[#1]{#2}\stopcitem}

1577 \tolerant\protected\def\fastchoice[#1]#:#2{
1578   \startchoice[#1]
1579   \def\citem_temp##1{\startcitem##1\stopcitem}
1580   \def\correct##1{##1\collectanswer{##1}}
1581   \processcommacommand[#2]\citem_temp
1582   \stopchoice}

1583 \tolerant\protected\def\fastchoicealt[#1]#:#2{
1584   \startinlinechoice[#1]
1585   \def\citem_temp##1{\startcitem##1\stopcitem}
1586   \def\correct##1{##1\collectanswer{##1}}
1587   \processcommacommand[#2]\citem_temp
1588   \stopinlinechoice}

```

谨慎使用下面的 fragilecitem，他并不安全。很有可能导致错误

```

1589 \bgroup
1590 \obeylines
1591 \gdef\xcitem{\bgroup\obeylines\dosingleempty\doxcitem}%
1592 \gdef\doxcitem[#1]#2
1593   {\egroup%
1594   \doifsomethingelse{#1}%
1595   {\startcitem[*]#2\stopcitem}%
1596   {\startcitem #2\stopcitem}%
1597   }%
1598 \egroup
1599 \let\fragilecitem\xcitem

```



## 13 設置 fillin 命令

該命令建議在 pitem 環境內進行使用。當然，同時由於 pitem 本身也有 answer 鍵值，可以通過該鍵值進行設定。

fillin 命令主要依靠 bar 命令實現的。基本上按照修改 bar 命令即可修改 fillin 命令。fillin 命令有兩個參考 textnote 的參數：empty 和 n。empty=yes，隱藏答案；empty=number 顯示數字；empty=none 顯示答案。n=\* 隱藏答案,長度為答案長度；n=NUMBER 控制 bar 的長度。

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。但必须同时设置 n=0 才会正常工作。

```

1600 \installnamespace      {fillin}
1601 \installcommandhandler \????fillin {fillin} \????fillin

1602 \setupfillin[%foregroundcolor=,
1603             %before=,after=,
1604             %left=,right=,
1605             %repeat=,mp=
1606             rule=fillin_text,% 引用 bar 命令
1607             empty=none,
1608             continue=yes,
1609             unit=em,
1610             order=foreground,
1611             method=0,
1612             %color=gray,
1613             width=4em,
1614             n=10,
1615             dy=-0.4,
1616             max=3,
1617             offset=-.1,
1618             rulethickness=.05,
1619             foregroundstyle=\ss,]

1620 \tolerant\protected\def\fillin[#1]#:#: #2{%
1621 \item_pitemfalse\item_fillintrue
1622 \begingroup\removeunwantedspaces
1623 \iffirstargument\setupfillin[#1]\fi
1624 \setupbar[fillin_text][%
1625     rulethickness=\fillinparameter{rulethickness},
1626     foregroundcolor=\fillinparameter{foregroundcolor},
1627     foregroundstyle=\fillinparameter{foregroundstyle},
1628     continue=\fillinparameter{continue},
1629     unit=\fillinparameter{unit},
1630     order=\fillinparameter{order},
1631     method=\fillinparameter{method},
1632     dy=\fillinparameter{dy},
1633     max=\fillinparameter{max},
1634     width=\fillinparameter{width},
1635     left=\fillinparameter{left},
1636     right=\fillinparameter{right},
1637     repeat=\fillinparameter{repeat},

```

```

1638         color=\fillinparameter{color},
1639         offset=\fillinparameter{offset},
1640         empty=\fillinparameter{empty},
1641         mp=\fillinparameter{mp}]%
1642 \global\advance\c_fillin_number by 1\relax
1643 \edef\p_n{\fillinparameter\c!n}%
1644 \edef\p_empty{\fillinparameter\c!empty}%
1645 \edef\p_number{\number\c_fillin_number}%
1646 \edef\p_align{\fillinparameter\c!align}%
1647 \edef\currentbar{\fillinparameter\c!rule}%
1648 \ifx\p_align\c!autoright
1649   \unskip\nobreak\hfill\penalty50\hskip2em\hbox{} \nobreak\hfill\fi
1650 \fillinparameter\c!before\fillinparameter\c!left
1651 \ifx\p_n\wildcardsymbol
1652   \donefalse
1653   \ifx\p_empty\c!yes\donetrue
1654   \else\ifx\p_empty\c!number\donetrue
1655   \else\ifx\p_empty\c!none\donetrue
1656   \fi\fi\fi
1657   \ifdone
1658   \ifmode_showanswer
1659     \setupfillin[empty=none]%
1660   \else
1661     \setupbar[\currentbar][\c!empty=\c!yes]%
1662   \fi
1663   \edef\p_empty{\fillinparameter\c!empty}%
1664   \fi
1665   \inlinebar[\currentbar]\bgroup
1666   \wordboundary#2\egroup
1667 \else
1668 \ifmode_showanswer\setupfillin[empty=none]\fi
1669 \edef\p_empty{\fillinparameter\c!empty}%
1670 \inlinebar[\currentbar]\bgroup
1671 \wordboundary\scratchcounter\numexpr\p_n\relax
1672 \ifx\p_empty\c!yes
1673   \interwordspacesbefore\scratchcounter
1674   \interwordspacesafter\scratchcounter
1675 \else\ifx\p_empty\c!number
1676   \interwordspacesbefore\scratchcounter
1677   \zwnj\runninghbox{\resetbar\p_number}\zwnj
1678   \interwordspacesafter\scratchcounter
1679 \else\ifx\p_empty\c!none
1680   \scratchcounter\numexpr\p_n/\plustwo\relax
1681   \interwordspacesbefore\scratchcounter
1682   \zwnj{\#2}\zwnj
1683   \interwordspacesafter\scratchcounter
1684 \else#2\fi\fi\fi
1685 \egroup
1686 \fi
1687 \fillinparameter\c!right\fillinparameter\c!after
1688 \ifx\p_align\c!autoright

```

```
1689 \parfillskip=0pt \finalhyphendemerits=0 \par\fi
1690 \aftergrouped{\edef\currentanswer{\collectanswer{#2}{#2}}}
1691 \endgroup}
```





## 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 \reset-count[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
```

(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

```
1692 \installnamespace {material}
1693 \installcommandhandler \????material {material} \????material
1694 \installcounterassociation {material}

1695 \appendtoks
1696   \registermaterialcounter\currentmaterial
1697   \definecounter[\currentmaterial]%
1698 \to \everydefinematerial
```

```

1699 \appendtoks
1700   \synchronizematerialcounters
1701 \to \everysetupmaterial

1702 \definematerial [material]
1703 \definematerial [number]
1704 \definematerial [indicator]
1705 \definematerial [indicator_helper]

1706 \setupmaterial [\c!align=center,
1707               %\c!color=,
1708               %\c!style=,
1709               \c!spacebefore=1em,
1710               \c!spaceafter=1em,
1711               %\c!title=,
1712               %\c!author=,
1713               %\c!source=,
1714               \c!indicator=continue,
1715               indent={first,always,2em},]
1716 \setupmaterial [\c!number] [\c!before={({,\c!after=})},
1717                  \c!prefix=no,\c!start=0,
1718                  \c!style=\namedmaterialparameter\c!title\c!style,
1719                  \c!color=\namedmaterialparameter\c!title\c!color,
1720                  \c!numberconversion=cn,\c!way=\v!by\v!chapter]
1721 \setupmaterial [\c!title] [\c!style=\ss\tfa,\c!color=,\c!align=center,
1722                  \c!before=,]
1723 \setupmaterial [\c!author] [\c!style=\tf,\c!color=,\c!align=flushright]
1724 \setupmaterial [\c!source] [\c!before=\par,\c!align=flushright]
1725 \setupmaterial [indicator,indicator_helper]
1726               [style=\ss\bf,before={ (~},after={~) },prefix=no,
1727               numberconversion=cn,type=line,reset=false]

1728 \def\material_counter_parameter#1%
1729 {\begingroup
1730  \def\currentmaterial{#1}%
1731  \setupalign[\namedmaterialparameter\c!title\c!align]
1732  \usematerialstyleandcolor\c!style\c!color
1733  \namedmaterialparameter\currentmaterial\c!before
1734  \incrementcounter[#1]\convertedcounter[#1]%
1735  \namedmaterialparameter\currentmaterial\c!after
1736  \endgroup}

1737 \def\material_parameter#1%creat new element in material
1738 {{\begingroup
1739  \def\currentmaterial{#1}%
1740  \setupalign[\namedmaterialparameter\currentmaterial\c!align]
1741  \usematerialstyleandcolor\c!style\c!color
1742  \namedmaterialparameter\currentmaterial\c!before
1743  \rootmaterialparameter\currentmaterial
1744  \namedmaterialparameter\currentmaterial\c!after
1745  \par\endgroup}}

```

```

1746 \tolerant\protected\def\startmaterial[#1]{\begingroup%
1747 \lettonothing\currentmaterial%%
1748 \edef\p_indicator{\rootmaterialparameter\c!indicator}
1749 \edef\p_reset{\namedmaterialparameter{indicator}\c!reset}
1750 \processaction[\p_indicator][
1751   reset=>\let\indicator_reset_helper\resetindicators,
1752   continue=>\continue_countertrue\let\indicator_reset_helper\relax,]
1753 \processaction[\p_reset][
1754   true=>\let\indicator_reset_helper\resetindicators,
1755   false=>\continue_countertrue\let\indicator_reset_helper\relax,]
1756 \env_materialtrue\set_envitem_counter%
1757 \iffirstargument\setupcurrentmaterial[#1]\fi
1758 \indicator_reset_helper
1759 \usematerialstyleandcolor\c!style\c!color%
1760 \blank[\rootmaterialparameter\c!spacebefore]
1761 \startalignment[\rootmaterialparameter\c!align]
1762   \material_counter_parameter\c!number
1763   \material_parameter\c!title
1764   \material_parameter\c!author
1765 \stopalignment
1766 \blank[\rootmaterialparameter\c!spaceafter]
1767 \setupindenting[\rootmaterialparameter{indent}]
1768 \removeunwantedspaces}
1769 \def\stopmaterial{%
1770   \material_parameter\c!source
1771   \indicator_reset_helper
1772   \endgroup}

1773 \tolerant\protected\def\indicator[#1]#: #2{\begingroup%
1774   \def\currentmaterial{indicator}
1775   \iffirstargument\setupmaterial[indicator][#1]\fi%
1776   \edef\indicator_type{\namedmaterialparameter\currentmaterial\c!type}%
1777   \edef\indicator_reset{\namedmaterialparameter\currentmaterial\c!reset}%
1778   \processaction[\indicator_type]%
1779     [line=>\let\indicator_type\underbar,%
1780     none=>\let\indicator_type\relax]%
1781   \usematerialstyleandcolor\c!style\c!color%
1782   \indicator_type%
1783   \namedmaterialparameter\currentmaterial\c!before%
1784   \ifmode_check%
1785     \ifenv_material\color[red]{material}\else\color[red]{\currentitemgroup}\fi%
1786     \ifcontinue_counter\color[red]{continue}\fi%
1787   \fi%
1788   \ifenv_material%
1789     \ifmode_check\color[red]{::indicator}\fi%
1790     \incrementcounter[\currentmaterial]%
1791     \convertedcounter[\currentmaterial]%
1792   \else%
1793     \ifmode_check\color[red]{::helper}\fi%
1794     \incrementcounter[indicator_helper]%
1795     \convertedcounter[indicator_helper]%

```

```

1796   \fi%
1797   \namedmaterialparameter\currentmaterial\c!after%
1798   #2}
1799 \endgroup}

1800 \def\indicators{%%% TODO 增強該命令的用法
1801 \ifenv_material
1802   \ifmode_check\color[red]{::indicator}\fi
1803   \incrementcounter[indicator]%
1804   \convertedcounter[indicator]%
1805 \else
1806   \ifmode_check\color[red]{::helper}\fi
1807   \incrementcounter[indicator_helper]%
1808   \convertedcounter[indicator_helper]%
1809 \fi}
1810 \def\resetindicators{\setcounter[indicator][0]%
1811   \setcounter[indicator_helper][0]}

```

## 15 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 \_\_\_\_ 34 \_\_\_\_ the course earlier than she did. Her \_\_\_\_ 35 \_\_\_\_ came because she was carrying a \_\_\_\_ 36 \_\_\_\_ across the finish line.

As reported by a local newspaper, Bailey was more than two-thirds of the way through her \_\_\_\_ 37 \_\_\_\_ when a runner in front of her began crying in pain. She \_\_\_\_ 38 \_\_\_\_ to help her fellow runner, Danielle Lenoue. Bailey took her arm to see if she could walk forward with \_\_\_\_ 39 \_\_\_\_ . She couldn't. Bailey then \_\_\_\_ 40 \_\_\_\_ 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 \_\_\_\_ 41 \_\_\_\_ attention.

Once there, Lenoue was \_\_\_\_ 42 \_\_\_\_ 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 \_\_\_\_ 43 \_\_\_\_ to make it to that aid checkpoint without Bailey's help.

- |                    |              |                  |                |
|--------------------|--------------|------------------|----------------|
| 34. A. designed    | B. followed  | C. changed       | D. finished    |
| 35. A. delay       | B. chance    | C. trouble       | D. excuse      |
| 36. A. judge       | B. volunteer | C. classmate     | D. competitor  |
| 37. A. race        | B. school    | C. town          | D. training    |
| 38. A. agreed      | B. returned  | C. stopped       | D. promised    |
| 39. A. courage     | B. aid       | C. patience      | D. advice      |
| 40. A. went away   | B. stood up  | C. stepped aside | D. bent down   |
| 41. A. medical     | B. public    | C. constant      | D. equal       |
| 42. A. interrupted | B. assessed  | C. identified    | D. appreciated |
| 43.                |              |                  |                |
| A. hunger          |              |                  |                |
| B. pain            |              |                  |                |
| C. cold            |              |                  |                |
| D. tiredness       |              |                  |                |

```

1812 \setupclose[%showanswer=false,
1813     reset=false,
1814     %barstyle=,
1815     %barcolor=,
1816     showpoint=false,
1817     answerstyle=\ss,
1818     answercolor=red,
1819     width=2em,% set order width
1820     frame=off,% set order frame
1821     stopper=.,% set order stopper
1822     distance=.5em,% set order distance
1823     after=\blank[halflines]]

1824 \c_closetest=1\relax
1825 \tolerant\protected\def\closebar#1{
1826   \startbar[underbar]%
1827   \scratchcounter\numexpr16/\plustwo\relax
1828   \interwordspacesbefore\scratchcounter
1829   \zwj\runninghbox{\resetbar{#1}}\zwj
1830   \interwordspacesafter\scratchcounter
1831   \stopbar}

1832 \def\closechoice[#1]{% 這是用戶命令，用來記錄選項(定義選項列表)
1833   \expandafter\def\csname close:\romannumerals\c_closetest\endcsname{#1}%
1834   % 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

```

```

1835 % 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
1836 % 該計數器屬於局域，每篇文章都會重置回 1。
1837 \ifclose_counter_reset
1838 \begingroup
1839 \setupbar[underbar]%
1840 [color=\closeparameter{barcolor},
1841 mp=\closeparameter{barstyle}]%
1842 \closebar{\number\c_closetest}%
1843 \endgroup
1844 \else
1845 \begingroup\let\par\relax% 將其封裝在局域，避免 par 命令失效
1846 \setupbar[underbar]%
1847 [color=\closeparameter{barcolor},
1848 mp=\closeparameter{barstyle}]%
1849 \startitemgroup[env_question][n,continue,text,nostopper]%
1850 [lefttext=\closebar,righttext=]%
1851 \item \save_question_order
1852 \stopitemgroup
1853 \endgroup
1854 \fi\advance\c_closetest by 1\relax}

1855 \def\close_order{%選項前的序號樣式，序號通過 tempa 設定
1856 \unskip\noindent
1857 \inframed[width=\closeparameter\c!width,
1858 frame=\closeparameter\c!frame,
1859 foreground=color,
1860 foregroundcolor=\closeparameter\c!color,
1861 foregroundstyle=\closeparameter\c!style]{%
1862 \convertnumber{n}{\number\c_closetest_tempa}%
1863 \closeparameter\c!stopper}%
1864 \hskip\closeparameter\c!distance\relax
1865 \global\advance\c_closetest_tempa by 1\relax
1866 \unskip}

1867 \def\docloseitem#1{\startcitem #1\stopcitem}
1868 \def\placeclosechoice{%
1869 \scratchcounter\numexpr\c_closetest-1\relax
1870 \c_closetest=1\relax%
1871 \dorecurse{\number\scratchcounter}{% start recurse
1872 \hbox{% start first box
1873 \hsize=\textwidth
1874 \increaseQuestionID
1875 \set_count_envlevel [close]%
1876 \installpointoranswer[close][point]%
1877 \installpointoranswer[close][answer]%
1878 \edef\currentitemnumber{\the\c_closetest_tempa}%
1879 \edef\currentuserorder{%
1880 \currentitemnumber%放置在這裡才能正確獲取題號
1881 \ifnum\rawcountervalue[Unicode_botlevel]=0\else% 抽出 order 定義,
1882 (\rawcountervalue[Unicode_botlevel])\fi}% 因為該環境沒有上級 question 環境
1883 \hbox{\close_order}% close question index box

```

```

1884 \hbox{\vtop{% close question choice box start
1885 \startchoice[point=\closeparameter\c!point]%
1886 \processcommacommand[\csname close:\romannumerals\c_closetest\endcsname]
1887 \docloseitem%
1888 \stopchoice
1889 }}% close question choice box stop
1890 }% stop first hbox
1891 \advance\c_closetest by 1\relax}% stop reucirse
1892 \c_closetest=1\relax%
1893 }

1894 \tolerant\protected\def\startclose[#1]%
1895 {\begingroup\env_closetrue\set_envitem_counter
1896 \iffirstargument\setupclose[#1]\fi
1897 \edef\p_reset{\closeparameter\c!reset}%
1898 \ifx\p_reset\s!true
1899 \close_counter_resettrue
1900 \else
1901 \close_counter_resetfalse
1902 \fi\restore_question_order
1903 \ifclose_counter_reset% 如果重置，則序號起自 1
1904 \c_closetest_tempa=1\relax% tempa 标记文章内的序号和选项前的序号
1905 \else % 否則，恢復上一問題序號，並遞增1.
1906 \c_closetest_tempa=\rawcountervalue[strc_close_counter]%
1907 \c_closetest_tempa=\numexpr\c_closetest_tempa+1\relax
1908 \fi
1909 \closeparameter\c!before
1910 \useclosestyleandcolor\c!style\c!color
1911 \removeunwantedspaces}

1912 \def\stopclose{%
1913 \closeparameter\c!after
1914 \placeclosechoice
1915 \endgroup}

```



## 16 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 (鋁). 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 influeVled by the aVLient Silk Road, by which silk as
well as many plant species came to Britain for \ocitem[answer=the]{} first time.
These plants iVLluded 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 44 (engineer) techniques are applied to create this protective 45 (function) structure that is also beautiful. The design features ten steel “sepals(萼片)” made of glass and aluminium (鋁). These sepals open on warm days 46 (give) the inside plants sunshine and fresh air. In cold weather, the structure stays 47 (close) to protect the plants.

Further, the Silk Route Garden around the greenhouse 48 (walk) visitors through a journey influeVled by the aVLient Silk Road, by which silk as well as many plant species came to Britain for 49 first time. These plants iVLluded modern Western 50 (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 51 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 52 brought the plants from their native habitat in Asia to come to define much of the 53 (rich) of gardening in England.

```
1916 \installnamespace      {ocitem}
1917 \installcommandhandler \???ocitem {ocitem} \???ocitem

1918 \setupocitem [%answer=,
1919             %color=,
```

```

1920      %point=,
1921      %showanswer=false,
1922      pointlabel={,\examtexts{point}},
1923      answerlabel={{\examtexts{answer}},},
1924      answercolor=red,
1925      answerstyle=\ss,]

1926 \definequestion[optclose]
1927 \definequestion[specialocitem]
1928 \def\setuptoptclose{\setupquestion[optclose]}
1929 \def\setupspecialoptclose{\setupquestion[specialocitem]}

1930 \setupquestion[optclose]
1931 [option={n,continue,text,nostopper},
1932 lefttext=\closebar,
1933 righttext=,
1934 reset=false,
1935 class=optclose,]

1936 \setupquestion[specialocitem]
1937 [option={n,continue,text,nostopper},
1938 lefttext=\closebar,
1939 righttext=,
1940 reset=false,]

1941 \tolerant\protected\def\ocitem[#1]#:#2%
1942 {\begingroup%
1943 \iffirstargument\setupocitem[#1]\fi%
1944 \useocitemstyleandcolor\c!style\c!color%
1945 \let\par\relax\increaseQuestionID%
1946 \item \parentitemnumber=\currentitemnumber\relax
1947 \set_count_itemlevel[ocitem]%%%% 必須命令，設定序號
1948 % 注意，此时 toplevel 并没有正确的关闭，因此最终的结果依然是 toplevel。
1949 % 但是该环境本身就被视为 toplevel      ==> 5
1950 % 如果该环境被视为子项目时，则需要关闭 toplevel。==> 5(1)
1951 % 另外，关闭 toplevel 需要在 set_count_itemlevel 命令之前才会生效。
1952 \allowbreak\doifsomethingelse{#2}{(#2)}{}% 放置選項，類似 inlinechoice
1953 \edef\currentpoint{\ocitemparameter\c!point}%
1954 \edef\currentanswer{\ocitemparameter\c!answer}%
1955 \installpointoranswer[ocitem][point]%
1956 \installpointoranswer[ocitem][answer]%
1957 \installdatacollector%
1958 \installdatacollectorhelper%
1959 \initcollectanswer
1960 \save_question_order%
1961 \endgroup}

```

## 17 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}\

1962 \def\score_calc#1{% only show number
1963 \global\c_stepscore_temp=#1\relax%
1964 \ifnum\c_stepscore=0\global\c_stepscore=#1\relax\else%
1965 \global\c_stepscore=\numexpr\c_stepscore+\c_stepscore_temp\relax%
1966 \fi\number\c_stepscore%
1967 }
1968 \def\dotfill{\leavevmode%
1969 \xleaders\hbox to 0.25em{\hfil.\hfil}%
1970 \hfill\kern 0pt\relax}
1971 \def\cdotfill{\leavevmode%
1972 \xleaders\hbox to 0.25em{\hfil$\cdot$\hfil}%
1973 \hfill\kern 0pt\relax}

1974 \installnamespace {score}
1975 \installcommandhandler \???score {score} \???score

1976 \setupscore[style=\ssa,color=red,dotstyle=\ss,dotcolor=red,score=]

1977 \tolerant\protected\def\score[#1]#:#2{\begingroup% format style
1978 \iffirstargument\setupscore[#1]\fi%
1979 \scoreparameter\c!before%
1980 \usescorestyleandcolor\c!style\c!color%
1981 \start\space\scoreparameter{dotstyle}%
1982 \switchtocolour[\scoreparameter{dotcolor}]%
1983 \doif{\scoreparameter\c!type}{\dotfill}%
1984 \doif{\scoreparameter\c!type}{space}%
1985 \doif{\scoreparameter\c!type}{hfill}\unskip\hfill}%
1986 \doif{\scoreparameter\c!type}{dotfill}\dotfill}%
1987 \doif{\scoreparameter\c!type}{cdotfill}\cdotfill}%
1988 \space\stop\scoreparameter\c!left%
1989 \doif{\scoreparameter{score}}{#2}%
1990 \doif{\scoreparameter{score}}{default}{#2}%
1991 \doif{\scoreparameter{score}}{calculation}{\score_calc{#2}}%
1992 \doif{\scoreparameter{score}}{complex}{#2 : \score_calc{#2}}%
1993 \scoreparameter\c!right\scoreparameter\c!after%
1994 \par\endgroup}
1995 \def\resetscore{%
1996 \c_stepscore_temp=0\relax%
1997 \c_stepscore=0\relax%
1998 }

```

```

1999 \installnamespace {writingbox}
2000 \installcommandhandler \???writingbox {writingbox} \???writingbox
2001 \setupwritingbox[row=10,column=18,width=2em,height=2em,midheight=1em]
2002 \newcount \tbl_row
2003 \newcount \tbl_col
2004 \def\makewritingbox{\dosingleempty\makewritingbox_indeed}
2005 \def\makewritingbox_indeed[#1]{\begingroup%
2006   \tbl_row=\writingboxparameter{row} % yoko
2007   \tbl_col=\writingboxparameter{column} % tate
2008   \setupTABLE[split=yes]
2009   \setupTABLE[column][width=\writingboxparameter{width}]
2010   \setupTABLE[row][odd][height=\writingboxparameter{midheight}]
2011   \setupTABLE[row][even][height=\writingboxparameter{height}]
2012   \bTABLE
2013     \bTR \bTD[nc=\number\tbl_col] {} \eTD \eTR
2014     \dorecurse{\number\tbl_row}{
2015       \bTR
2016         \dorecurse{\number\tbl_col}{\bTD {} \eTD}
2017       \eTR
2018     \bTR \bTD[nc=\number\tbl_col] {} \eTD \eTR}
2019   \eTABLE
2020 \endgroup}

```

## 18 模拟例子

```

2021 \dorecurese{2000}{}% 提高这个数字，可以提升可生成例子的总数。所有例子共用一个总数
2022 \expandafter\getrandomnumber \csname n_\romannumeral\recurselevel\endcsname {1} {
2023 20}{}

2024 \dorecurese{2000}{}% 一旦总例子数超过，则无法继续生成，并抛出错误。
2025 \expandafter\getrandomnumber \csname nn_\romannumeral\recurselevel\endcsname {1}
2026 {20}{}

2027 \def\longtesttxt[#1]{%%1. \longtesttxt[\romannumeral 1]
2028 \ifcase\csname n_#1\endcsname%
2029 就像按 S 来响应错误一样。 \or%0
2030 这个例子不太完整，因为页码没有存储在有用的地方。 \or%1
2031 TeX 处理数学显示后，它将以下项目添加到当前垂直列表中： 惩罚、胶水、实际显示、胶水和惩罚。 \or
2032 %2
2033 然而，它显示了一种增加或减少计数器的方法，并设置数字中的数字或相当于数字的罗马数字中的字母。 \or
2034 %3
2035 基本问题是“对 TeXbook 的页面引用应该如何出现在参考页面的描述区域中？”这个例子显示了三种可能
2036 性。 \or%4
2037 正如 TeX 不会随机连字符单词一样，它也不会段落中的行之间随机打断数学表达式。 \or%5
2038 TeX 仅考虑在关系（例如 = 或 < ）或二进制操作（例如 + 或 × ）之后进行中断。 \or%6
2039 此命令提供对当前字体中所有字符的访问。号码应该在 0 -- 255 范围内。 \or%7
2040 Junkjunk.tex 文件不包含任何有用的东西，但这些行说明了一种读取辅助文件的方法。 \or%8
2041 此命令将寄存器中的列表副本添加到当前列表中。 \or%9
2042 请注意，每个寄存器在创建后都会被初始化。 \or%0
2043 此命令提供了一种直接指定分隔符的方法。 \or%1
2044 数字应该是七个十六进制数字。 \or%2
2045 它的前导数字必须在 0-7 范围内。该数字用作类号，其余六位数字用作 \type{\delcode} 值。 \or%3
2046 Plain TeX 有二十多个定义，类似于：'\type{\def\rceil{\delimiter"5265307 }}'。 \or%4
2047 这个定义意味着 \type{\rceil} 在家庭5（关闭），其小形式在家庭2位置"65，其大形式在家庭3位置"0
2048 7"。 \or%5
2049 \type{\Delimiter} 指定了一个数学符号，并以两种方式工作。 \or%6
2050 当 TeX 寻找分隔符时（例如，在 \type{\left} 之后），它忽略了类数字，并使用剩余的六位数字作为
2051 \type{\delcode}。 \or%7
2052 但是，当分隔符在其他上下文中出现时，右三位数字被删除，其余四位数字成为符号的 \type{\mathcode
2053 }。 \or%8
2054 对于 \type{\rceil}，这意味着 \type{\delcode} 是"265307，\type{\mathcode} 是"5265"。
2055 \or%9
2056 它首先计算子公式在轴上方和下延伸的距离。接下来，它使 y 等于刚刚计算的最大距离的两倍。 \fi}

2057 \def\shorttesttxt[#1]{%%1. \shorttesttxt[i]
2058 \ifcase\csname nn_#1\endcsname%
2059 悬挂压痕的数量 \or%0
2060 段落中正线的宽度 \or%1
2061 开始一个没有缩进的新段落 \or%2
2062 告诉TeX尝试增加或减少段落中的行数 \or%3
2063 扩展令牌，但在到达非空间令牌之前什么都不做 \or%4
2064 只有当主垂直列表为空时，它才会结束当前工作 \or%5
2065 该命令在内部垂直模式下是不允许的 \or%6
2066 任意中断由三个字符序列组成 \or%7

```

```

2067 另一个无效号码被传递了\or%8
2068 来自假部分的条件命令\or%9
2069 线路需要转移的金额\or%0
2070 用于指定显示样式\or%1
2071 关系后断线的惩罚\or%2
2072 此命令定义了宏\or%3
2073 家庭的脚本字体\or%4
2074 尺寸没有变化\or%5
2075 额外的空间\or%6
2076 左边的段落\or%7
2077 当前线宽\or%8
2078 文本样式\or%9
2079 序列\fi}

2080 \tolerant\protected\def\choicenum[#1][#2][#3]{
2081 \ifnum\csname nn_#1\endcsname < 6
2082 \expandafter\startcitem[*]{\shorttesttxt[\romannumeral #2]} \stopcitem
2083 \else
2084 \expandafter\startcitem {\shorttesttxt[\romannumeral #3]} \stopcitem
2085 \fi
2086 }

2087 \newcount\LNUM\LNUM=1\relax
2088 \newcount\CNUM\CNUM=1\relax
2089 \newcount\DNUM\DNUM=1\relax
2090 \newcount\ENUM\ENUM=2\relax

2091 \protected\def\example@choice#1{
2092 \setupquestion[point=2]
2093 \dorecurse{#1}{
2094 \startquestion
2095 \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
2096 \startchoice
2097 \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2098 \global\advance\CNUM by 1\relax\global\advance\DNUM by 2\relax\global
2099 \advance\ENUM by 2\relax
2100 \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2101 \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2102 \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2103 \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2104 \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2105 \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2106 \stopchoice
2107 % \startanswer
2108 % \input knuthmath
2109 % \stopanswer
2110 \stopquestion}
2111 }
2112 \def\example@fillin#1{
2113 \setuppitem [point=3]
2114 \startquestion
2115 \longtesttxt[\romannumeral\LNUM]

```

```

2116 \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
2117 \startproblem
2118 \dorecurse{#1}{
2119   \startpitem
2120   \longtesttxt[\romannumeral\CNUM]\fillin[]{\fillinanswer}
2121   \stoppitem
2122   % \startanswer
2123   %   \input knuthmath
2124   % \stopanswer
2125   \global\advance\CNUM by 1\relax}
2126 \stopproblem
2127 \stopquestion
2128 }
2129 \def\example@pitem#1{
2130   \startquestion
2131   \longtesttxt[\romannumeral\LNUM]
2132   \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
2133   \startproblem
2134   \dorecurse{#1}{
2135     \startpitem[answer={answer : \recurselevel},point={\number\CNUM}]
2136     \longtesttxt[\romannumeral\CNUM]\stoppitem
2137     % \startanswer
2138     %   \input knuthmath
2139     % \stopanswer
2140     \global\advance\CNUM by 1\relax}
2141   \stopproblem
2142   \stopquestion
2143 }
2144 \def\example@material#1{
2145   \startmaterial
2146   \input knuthmath
2147   \stopmaterial
2148   \setupquestion[point=6]
2149   \dorecurse{#1}{
2150     \startquestion
2151     \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
2152     \startchoice
2153     \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2154     \global\advance\CNUM by 1\relax%
2155     \global\advance\DNUM by 2\relax%
2156     \global\advance\ENUM by 2\relax%
2157     \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2158     \advance\CNUM by 1\relax%
2159     \advance\DNUM by 1\relax%
2160     \advance\ENUM by 2\relax%
2161     \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2162     \advance\CNUM by 1\relax%
2163     \advance\DNUM by 1\relax%
2164     \advance\ENUM by 2\relax%
2165     \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2166     \advance\CNUM by 1\relax%

```

```

2167     \advance\DNUM by 1\relax%
2168     \advance\ENUM by 2\relax%
2169     \stopchoice
2170     % \startanswer
2171     % \input knuthmath
2172     % \stopanswer
2173 \stopquestion}
2174 }
2175 \def\example@close#1{
2176 \startclose
2177 \def\closechoice#1{\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by 1
2178 \relax}
2179 \dorecurse{#1}{
2180 \dorecurse{3}{
2181 \longtesttxt[\romannumeral\CNUM]
2182 \global\advance\CNUM by 1\relax
2183 }\closechoice[\closechoice#1,{[*]\closechoice#1},\closechoice#1]
2184 \longtesttxt[\romannumeral\CNUM]}
2185 \stopclose
2186 }
2187 \def\example@optclose#1{
2188 \startoptclose
2189 \def\closechoice#1{\ss\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by
2190 1\relax}
2191 \dorecurse{#1}{
2192 \dorecurse{3}{
2193 \longtesttxt[\romannumeral\CNUM]
2194 \global\advance\CNUM by 1\relax
2195 }\ocitem[point=4,answer={\shorttesttxt[\romannumeral\DNUM]}]{%
2196 {\closechoice#1,\closechoice#1,\closechoice#1}
2197 \longtesttxt[\romannumeral\CNUM]}
2198 \stopoptclose
2199 }
2200 \def\example@specialoptclose#1{
2201 \dorecurse{#1}{
2202 \dorecurse{3}{
2203 \longtesttxt[\romannumeral\CNUM]
2204 \global\advance\CNUM by 1\relax
2205 }\specialocitem[point=2,answer={\shorttesttxt[\romannumeral\DNUM]}]{%
2206 \global\advance\DNUM by 1\relax
2207 \longtesttxt[\romannumeral\CNUM]}
2208 }

```



## 19 打印答案 / Print answer / 答案の輸出

```
2209 \newcount\c_qid_answer
```

```
2210 \def\resetanswerid{\global\c_qid_answer=1\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}
```

```
2211 \tolerant\def\typeanswerbychap[#1]#: #2%
2212 {\begingroup% #1 = QID, #2 =chap number
2213 \ifparameter#1\or
2214 \doifsomethingelse{\scratchcounterone#1}{\scratchcounterone#1}{
2215 \scratchcounterone\zerocount}%
2216 \c_qid_answer=\numexpr\scratchcounterone -1\relax\fi
2217 \scratchcounter#2\relax
2218 \global\advance\c_qid_answer by 1\relax
2219 \datasetvariable{Answer_collector}{\the\scratchcounter-\the\c_qid_answer}{answer
2220 }%
2221 \endgroup}
```

Example 2:

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

```
2222 \def\typeanswerdirect#1{% #1 = qid, 需要自行輸入來獲取某個題目的答案
2223 \datasetvariable{Answer_collector}{#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
```

```
2224 \tolerant\protected\def\typeanswerlist[#chapno][#startno]#*#:#total{%#1 = chapter
2225 number
2226 \begingroup
2227 \ifparameter#chapno\or
2228 \doifsomethingelse{\scratchcounterone #chapno }{\scratchcounterone #chapno }{
2229 \scratchcounterone \zerocount}\fi
2230 \ifparameter#startno\or
2231 \doifsomethingelse{\scratchcountertwo #startno}{\scratchcountertwo #startno}{
2232 \scratchcountertwo \zerocount}\fi
2233 \ifparameter#total\or
2234 \doifsomethingelse{\scratchcounterthree#total }{\scratchcounterthree#total }{
2235 \scratchcounterthree\zerocount}\fi
2236 \c_qid_answer=\scratchcountertwo
2237 \dorecurse{\the\scratchcounterthree}{% answer amount
2238 \datasetvariable{Answer_collector}{\the\scratchcounterone-\the\c_qid_answer}{
2239 answer},%
```

```

2240 \advance\c_qid_answer by 1\relax}%
2241 \endgroup}

```

Example 4:

```

\typeanswerstable[2,5]% #3 = 0 #4 = 1
\typeanswerstable[2,5][0]% #4 = 1
\typeanswerstable[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
-----

```

```

2242 \newcount\answer@seq@tempa
2243 \newcount\answer@seq@tempb
2244 \tolerant\def\typeanswerstable[#rows,#columns]#*[#chapno]#*[#startno]%
2245 {\begingroup
2246 \ifarguments\or\or
2247 \scratchcounter \zerocount\relax
2248 \scratchcounterone \plusone \relax
2249 \or
2250 \doifsomethingelse{\scratchcounter #chapno \relax}
2251 {\scratchcounter #chapno \relax}
2252 {\scratchcounter \zerocount\relax}
2253 \scratchcounterone \plusone \relax
2254 \or
2255 \doifsomethingelse{\scratchcounter #chapno \relax}
2256 {\scratchcounter #chapno \relax}
2257 {\scratchcounter \zerocount\relax}
2258 \doifsomethingelse{\scratchcounterone #startno\relax}
2259 {\scratchcounterone #startno\relax}
2260 {\scratchcounterone \zerocount\relax}
2261 \or\fi
2262 \answer@seq@tempa=\numexpr\scratchcounterone-1\relax
2263 \answer@seq@tempb=\numexpr\scratchcounterone-1\relax
2264 \the\answer@seq@tempa == \the\answer@seq@tempb
2265 \bTABLE
2266 \dorecurse{#rows}{
2267 \bTR
2268 \dorecurse{#columns}{\advance\answer@seq@tempa by 1\relax
2269 \expanded{\bTD\tt\datasetvariable{Answer_collector}{\the\scratchcounter-\the
2270 \answer@seq@tempa}{userorder}{eTD}}}%
2271 \eTR\bTR
2272 \dorecurse{#columns}{\advance\answer@seq@tempb by 1\relax
2273 \expanded{\bTD\ss\datasetvariable{Answer_collector}{\the\scratchcounter-\the
2274 \answer@seq@tempb}{answer}{eTD}}}%
2275 \eTR}%
2276 \eTABLE
2277 \endgroup}

```

Example 5:

```
\typeansweralt[4,2]% #3 = 0 #4 = 1
\typeansweralt[4,2][1]% #4 = 1
\typeansweralt[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
-----
```

```
2278 \tolerant\def\typeansweralt[#rows,#columns]*[#chapno]*[#startno]%
2279 {\begingroup\ifarguments 0\or
2280 \scratchcounter \zerocount\relax
2281 \scratchcounterthree \plusone \relax
2282 \or
2283 \scratchcounter \zerocount\relax
2284 \scratchcounterthree \plusone \relax
2285 \or
2286 \scratchcounterthree \plusone \relax% for startno
2287 \doifsomethingelse{\scratchcounter #chapno \relax}
2288 {\scratchcounter #chapno \relax}
2289 {\scratchcounter \zerocount\relax}
2290 \or
2291 \doifsomethingelse{\scratchcounter #chapno \relax}
2292 {\scratchcounter #chapno \relax}
2293 {\scratchcounter \zerocount\relax}
2294 \doifsomethingelse{\scratchcounterthree #startno\relax}
2295 {\scratchcounterthree #startno\relax}
2296 {\scratchcounterthree \zerocount\relax}
2297 \or\fi
2298 \scratchcounterone #rows \relax
2299 \scratchcountertwo #columns\relax
2300 \answer@seq@tempa=\numexpr\scratchcounterthree-1\relax
2301 \def\getdata##1{\datasetvariable
2302 {Answer_collector}%
2303 {\the\scratchcounter-\the\answer@seq@tempa}%
2304 {##1}}%
2305 \bTABLE
2306 \dorecurse{\the\scratchcounterone}{\bTR
2307 \dorecurse{\the\scratchcountertwo}{\advance\answer@seq@tempa by 1\relax
2308 \expanded{\bTD\tt\getdata{userorder}\eTD}
2309 \expanded{\bTD\ss\getdata{answer} \eTD}
2310 }
2311 \eTR}
2312 \eTABLE
2313 \endgroup}
```



## 20 模式設置 / Mode Setting/ モードセット

```

2314 \definemode[teacher][keep]
2315 \definemode[student][keep]
2316 \definemode[check][keep]
2317 \startmode[teacher]
2318   \mode_showanswertrue
2319   \mode_showpointtrue
2320   % \setupquestion[showanswer=true,showpoint=true]
2321   % \setupchoice [showanswer=true,showpoint=true]
2322   % \setupcitem [showanswer=true,showpoint=true]
2323   % \setuppitem [showanswer=true,showpoint=true]
2324   % \setupclose [showanswer=true,showpoint=true]
2325   % \setupocitem [showanswer=true,showpoint=true]
2326   % \setupanswer [showanswer=true,showpoint=true,showscript=false]
2327 \stopmode
2328 \startmode[student]
2329   \mode_showanswerfalse
2330   \mode_showpointfalse
2331   % \setupquestion[showanswer=false,showpoint=true]
2332   % \setupchoice [showanswer=false,showpoint=true]
2333   % \setupcitem [showanswer=false,showpoint=true]
2334   % \setuppitem [showanswer=false,showpoint=true]
2335   % \setupclose [showanswer=false,showpoint=true]
2336   % \setupocitem [showanswer=false,showpoint=true]
2337   % \setupanswer [showanswer=false,showpoint=true,showscript=false]
2338 \stopmode
2339 \startmode[check]
2340   \mode_checktrue
2341 \stopmode
2342 \def\showanswer{\mode_showanswertrue\setupanswer[showscript=false]}
2343 \def\hideanswer{\mode_showanswerfalse\setupanswer[showscript=true]}
2344 \let\showpoint\mode_showpointtrue
2345 \let\hidepoint\mode_showanswerfalse
2346 \let\showcheekinfol\mode_checktrue
2347 \protect
2348 \stopmodule
2349 \endinput

```

