CONTEXT

basicexam

Memoir Ever

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```
1  \startmodule[basicexam]
2  \unprotect
```

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1 模塊參數 / Module Setups / モジュール　セットアップ

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

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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
```

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3 定义其后环境所需命令

定义关键词

```
38  \definesystemconstant{close}
39  \definesystemconstant{choice}
40  \definesystemconstant{answer}
41  \definesystemconstant{problem}
42  \definesystemconstant{question}
43  \definesystemconstant{material}
44  \definesystemconstant{optclose}

45  \startinterface all
46  \setinterfaceconstant {class}      {class}
47  \setinterfaceconstant {answer}      {answer}
48  \setinterfaceconstant {point}      {point}
49  \setinterfaceconstant {example}      {example}
50  \setinterfaceconstant {showanswer}  {showanswer}
51  \setinterfaceconstant {showpoint}  {showpoint}
52  \setinterfaceconstant {answerstyle}  {answerstyle}
53  \setinterfaceconstant {answercolor}  {answercolor}
54  \setinterfaceconstant {answerlabel}  {answerlabel}
55  \setinterfaceconstant {pointstyle}  {pointstyle}
56  \setinterfaceconstant {pointcolor}  {pointcolor}
57  \setinterfaceconstant {pointlabel}  {pointlabel}
58  \setinterfaceconstant {autoright}    {autoright}
59  \setinterfaceconstant {inlineleft}  {inlineleft}
60  \setinterfaceconstant {inlineright}  {inlineright}
61  \setinterfaceconstant {inlinechoice}  {inlinechoice}
62  \stopinterface
```

安装定义命名空间和环境助手

```
63  \installnamespace      {close}
64  \installcommandhandler \????close  {close}  \????close
65  \newif\ifmode_quickcheck  \mode_quickcheckfalse
66  \newif\ifmode_check      \mode_checkfalse
67  \newif\ifmode_showanswer  \mode_showanswerfalse
68  \newif\ifmode_showpoint  \mode_showpointfalse
69  \newif\ifmode_showscript  \mode_showscriptfalse
70  \newif\ifmode_example    \mode_examplefalse
71  \newif\ifenv_question    \env_questionfalse
72  \newif\ifenv_problem    \env_problemfalse
73  \newif\ifenv_choice      \env_choicefalse
74  \newif\ifenv_material    \env_materialfalse
75  \newif\ifenv_close      \env_closefalse
76  \newif\ifenv_writing    \env_writingfalse
77  \newif\ifenv_subwriting  \env_subwritingfalse
78  \newif\ifenv_answer      \env_answerfalse
79  \newif\ifenv_toplevel    \env_topleveltrue
80  \newif\ifenv_botlevel    \env_botlevelfalse
81  \newif\ifitem_pitem      \item_pitemfalse
```

```
82   \newif\ifitem_fillin      \item_fillinfalse
83   \newif\ifitem_inlinechoice \item_inlinechoicefalse
84   \newif\ifchoice_check      \choice_checkfalse
85   \newif\ifcontinue_counter  \continue_counterfalse
86   \newif\ifclose_counter_reset \close_counter_resetfalse

87   \newdimen\d_width_cit
88   \newdimen\d_width_cit_max
89   \newdimen\d_compared_maxwidth
90   \newdimen\d_maxwidth_with_label
91   \newcount\c_currentitemnumber% 封装在 inititemnumber 和 incrementitemnumber 中
92   \newcount\c_totalitemnumber% 封装在 recurseditemnumber 中
93   \newcount\c_steppoint% 封装在 install_point 命令中
94   \newcount\c_steppoint_temp
95   \newcount\c_stepscore
96   \newcount\c_stepscore_temp
97   \newcount\c_closetest
98   \newcount\c_closetest_tempa
99   \newcount\c_example_question
100  \newcount\c_envcounter_toggle
101  \newcount\c_fillin_number
102  \newcount\current_total_choice_number% 當前選項 ABCD 總計數，获取已经计算后的
103   totalitemnumber
104  \newcount\current_available_columns%可排版的最多列數
105  \newcount\parentitemnumber% \parentitemnumber 会等于父级列表环境的序号

106  \definecounter[Unicode][way=bychapter]
107  \definecounter[Unicode_toplevel]   % for level 1 : question or problem
108  \definecounter[Unicode_midlevel]   % for level 2 : problem or level 1
109  \definecounter[Unicode_botlevel]   % for level 3 : only for level 2
110  \definecounter[strc_close_counter]  % 为 close 环境可以继续 question 序号而设置

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

```
131   \definetextbackground[env_answer]
132   \defineitemgroup   [env_question]
133   \defineitemgroup   [env_problem]
134   \defineitemgroup   [env_example]
135   \defineitemgroup   [env_choice]
136   \definebar         [fillin_text]
137   \definemarking     [title]
138   \definemarking     [subject]
139   \definedataset[Answer_collector]
140   \definedataset[Answer_collectorhelper]
141   \definedataset[Subwriting_collector]
142   \newwrite\examanswer

143   \def\exam_write_answer{%
144     \immediate\openout\examanswer=\jobname -answer.txt\relax
145     \immediate\write\examanswer{
146       \QuestionID        \space\string @
147       \currentenvironment    \space\string @
148       \currentuserorder      \space\string @
149       \pass_parameter_answer}%
150   % \closeout\examanswer
151   }

152   \ifmode_check
153     \immediate\openout\examanswer=\jobname -answer.txt\relax
154     \immediate\write\examanswer{
155       \string questionid \space\string @
156       \string environment \space\string @
157       \string userorder  \space\string @
158       \string answer}
159   \fi

160   \startuseMPgraphic{rules:under:wave}
161     vardef lsin primary x =
162       lua("mp.print(math.sin(" & decimal x & "))")
163     enddef ;
164     draw function(1, "x", "lsin(1.2*x)", 0, RuleWidth, .1pt)
165       shifted (0,RuleFactor*RuleOffset+RuleDepth)
166       withpen pencircle scaled RuleThickness
167       withcolor RuleColor ;
168     setbounds currentpicture to unitsquare xysized(RuleWidth,RuleHeight) ;
169   \stopuseMPgraphic

170   \definelabelclass [exam] [0]
171   \setuplabeltext [cn] [section={第,部分},subsection={第,节}]
172   \setupexamtext [cn] [point={分}, answer={答案:}, page={第,页},  totalpage={共,页}]
173   \setupexamtext [hans] [point={分}, answer={答案:}, page={第,页},  totalpage={共,页}
174   ]% work with memos module
175   \setupexamtext [hant] [point={分}, answer={答案:}, page={第,頁},  totalpage={共,頁}
176   ]% work with memos module
177   \setupexamtext [en] [point={pts},answer={answer:},page={pages},  totalpage={
178   total,pages}]
```

```
179  \setupexamtext  [ja]  [point={点}, answer={答え:}, page={第,ページ},totalpage={共,
180  ページ}]

181  \definehead [tu]  [chapter]
182  \definehead [ego] [section]    % me latin
183  \definehead [isea] [subsection]  % he or she latin
184  \definehead [heu] [subsubsection] % och
185  \setuphead [tu]  [placehead=empty]
186  \setuphead [ego] [sectionsegments=section,style=\ssa]
187  \setupheads [isea] [style=\hwa]
188  \setupheads [tu,ego,isea]
189          [indentnext=yes,align=flushleft,
190          before={\blank[quarterline]},
191          after={\blank[quarterline]},
192          sectionconversionset=examnum]
193  \definelist[tu]
194  \setuplist [tu][style={\feature[+][tabularnumbers]}]
195  \definestructureconversionset[examnum][chinesenumerals][chinesenumerals]

196  \ifhdr_default
197  \definedelimitedtext  [paren]  [location=text]
198  \setupdelimitedtext  [paren:1] [left={ (\nobreak}, right={\nobreak) }]
199  \setupdelimitedtext  [paren:2] [left={\,[~}, right={~]\,}]
200  \setupdelimitedtext  [paren:3] [left={\,\{~}, right={~\}\,}]
201  \setupmarking[subject][expansion=yes]
202  \setupfooter [state=start]
203  \startsetups hdr:infos
204  \framed[height=max,align=lohi,frame=off]{%
205   \getmarking[subject][page][current]
206   \paren{\examtexts{page}{\pagenumber},\ %
207      \examtexts{totalpage}{\lastpagenumber}}%
208   }
209  \stopsetups
210  \setupfootertexts[\setups{hdr:infos}]
211  \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,
 titlstyle=\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]
```

```
212  \installnamespace {papertitle}
213  \installnamespace {papertitlealternative}
214  \installnamespace {papertitlerenderings}

215  \installcommandhandler \????papertitle        {papertitle}        \????papertitle
216  \installcommandhandler \? ? ? ?papertitlealternative {papertitlealternative}
217   \????papertitlealternative

218  \def\doifemptyelsex#1#2{\doifelse{#1}{}{}{#2}{#1}}
219  \def\definepapertitlevariable#1{\begingroup% #1=element name
220    \parindent0pt\relax\par%
221    \doifelse{\namedpapertitleparameter{\currentpapertitle}{#1align}}{}%
222        {\setupalign[center]}%
223        {\setupalign[\namedpapertitleparameter{\currentpapertitle}{#1align}]}%
224    \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{before#1}}{}%
225    \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1style}}{}%
226    \expandafter\begincsname\namedpapertitleparameter{\currentpapertitle}{#1color}
227     \endcsname
228    \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{#1}}%
229        {\showmessage{basicexam}{3}{#1}}%
230    \doifemptyelsex{\namedpapertitleparameter{\currentpapertitle}{after#1}}{}%
231    \par\endgroup}

232  \tolerant\def\makepapertitle[#1][#2]%
233   {\begingroup\cdef\currentpapertitle{#1}%
234   \ifarguments\or\or\setuppapertitle[#1][#2]\fi
235   \edef\currentpapertitlealternative{\papertitleparameter\c!alternative}%
236   \ifcsname\currentpapertitlealternativehash\s!parent\endcsname \else
237    \let\currentpapertitlealternative\s!default
238   \fi
239   \usesetupsparameter\papertitleparameter
240   \edef\p_renderingsetup{\papertitlealternativeparameter\c!renderingsetup}%
241   \directsetup\p_renderingsetup
242   \marking[subject]{\papertitleparameter{subject}
243        \papertitleparameter{subjectsuffix}}
244   \marking[title]{\papertitleparameter\c!title}
245   \endgroup}
```

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

```
246  \definepapertitlealternative
247   [\s!default]
248   [\c!renderingsetup=\????papertitlerenderings:\s!default]

249  \startsetups[\????papertitlerenderings:\s!default]
```

```
250    \edef\currentlist{\papertitleparameter\c!list}
251    \edef\currenttitle{\papertitleparameter\c!title}
252    \expandafter\expandafter\expandafter\tu\expandafter{\currenttitle}
253    \processcommacommand[\currentlist]\definepapertitlevariable
254    \stopsetups

255  \setuppapertitle [
256    \c!alternative=\s!default,
257    subjectsuffix=学科试卷,
258    list={secret,title,subject,information,signinformation,notice},
259    ]
260  \setuppapertitle [
261    secretstyle=\ss,
262    titlestyle=\ssa,
263    subjectstyle=\ssb,
264    informationstyle=\ttx,
265    noticestyle=\rm\it,
266    secretalign=flushleft,
267    titlealign=center,
268    subjectalign=center,
269    informationalign=center,
270    noticealign=flushleft,
271    secret={绝密 ★ 启用前},
272    title={\currentdate[year] 年普通高等学校招生全国统一考试},
273    subject={英语},
274    signinformation={{姓名：  }{\blackrule[width=4em,height=.2pt]}
275            {准考证号：}{\blackrule[width=4em,height=.2pt]}},
276    information={全卷共12页，满分150分，考试时间120分钟。},
277    notice={考生注意：
278        \startitemize[n,packed,joinedup]
279        \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
280            或钢笔分别填写在试题卷和答题纸规定的位置上。 %
281        \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
282            位置上规范作答，在本试题卷上的作答一律无效。 %
283        \stopitemize},
284    ]

285  \definepapertitle[newpaper]
```

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

```
286  \doifelsefontpresent{NotoSansSymbols2-Regular}{}{
287   \showmessage{basicexam}{9}{NotoSansSymbols2 font,symbol}}
288  \definefontsynonym[NotoSansSymbols2][file:NotoSansSymbols2-Regular]
289  \def\notosymb#1{\getglyphstyled{NotoSansSymbols2}{\tochar{n:#1}}}

290  \definesymbol[marksquare]      [\notosymb{}]
291  \definesymbol[markcircle]      [\notosymb{○}]
292  \definesymbol[marknotcheck]    [\notosymb{}]
293  \definesymbol[markcheck]       [\notosymb{}]
294  \definesymbol[markheavycheck]  [\notosymb{}]
295  \definesymbol[marksquarecheck]  [\notosymb{\rlap{}\,\raise.2em\hbox{}}]
296  \definesymbol[marksquareheavycheck][\notosymb{\rlap{}\,\raise.2em\hbox{}}]
297  \definesymbol[markcirclecheck]  [\notosymb{\rlap{○}\,\raise.2em\hbox{}}]
298  \definesymbol[markcircleheavycheck][\notosymb{\rlap{○}\,\raise.2em\hbox{}}]
299  \definesymbol[markcross]       [\notosymb{}]
300  \definesymbol[markheavycross]   [\notosymb{}]
301  \definesymbol[marksquarecross]  [\notosymb{\rlap{}\,\raise.1em\hbox{}}]
302  \definesymbol[marksquareheavycross][\notosymb{\rlap{}\,\raise.1em\hbox{}}]
303  \definesymbol[markcirclecross]  [\notosymb{\rlap{○}\,\raise.1em\hbox{}}]
304  \definesymbol[markcircleheavycross][\notosymb{\rlap{○}\,\raise.1em\hbox{}}]
```

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}	✔		

```
305  \def\choice_answerstatus     {\datasetvariable{Choice_collector}{\QuestionID}{
306   answerstatus}}
307  \def\point_totalpoint        {\datasetvariable{Answer_collector}{\QuestionID}{
308   totalpoint}}
309  \def\point_point          {\datasetvariable{Answer_collector}{\QuestionID}{point}}
310  \def\currentavailablecolumns  {}
311  \def\currentrealavailablecolumns{}
312  \def\currentitemmaxwidth    {}
313  \def\currentanswerstatus    {}
314  \def\example_mode{\ifmode_example NOTICE: MODE EXAMPLE IS ON !\fi}
315  \def\level_status{\ifenv_toplevel <env_toplevel>\else%
316        \ifenv_botlevel <env_botlevel>\else%
317              <env_midlevel>\fi\fi}

318  \def\mode_status{\ifmode_check   <M:C>\fi%check
319        \ifmode_showanswer <M:A>\fi%answer
320        \ifmode_showpoint <M:P>\fi%point
321        \ifmode_example   <M:E>\fi}
```

```
322  \startluacode
323   local report = logs.reporter("question info")

324   local function center_text(text, total_width)
325     local text_length = #text
326     local left_padding = math.floor((total_width - text_length) / 2)
327     local right_padding = total_width - left_padding - text_length
328     return string.rep(' ', left_padding) .. text .. string.rep(' ', right_padding)
329   end

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

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

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

346     report("--------------------------------------------------------------------")
347     center_report(lines,60)

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

355  \def\check_info{
356    {"","\example_mode","",""},
357    {"Name      ", "Content                              ",
358     "Cinfos    ", "Content                              "},
359    {"CUitemgroup ", "\datasetvariable{Answer_collector}{\QuestionID}{envid}
360     ",
361     "CUparen   ", "\currentparentitemgroup                  "},
362    {"QuestionID ", "\QuestionID                          ",
363     "HelperID   ", "\HelperID                            "},
364    {"order      ", "\currentorder                        ",
365     "userorder  ", "\currentuserorder                    "},
366    {"point      ", "\datasetvariable{Answer_collector}  {\QuestionID}{point}      ",
367     "          ", "                                     "},
```

```
368    {"totalnumber ", "\datasetvariable{Answer_collector}  {\QuestionID}{totalnumber
369     }  ",
370     "Htotalnumber ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
371     totalitemnumber}"},
372    {"totalpoint ", "\datasetvariable{Answer_collector}  {\QuestionID}{totalpoint}
373     ",
374     "Htotalpoint ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
375     totalpoint}  "},
376    {"CUCmaxwidth ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
377     itemmaxwidth}  ",
378     "Cavailable ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{
379     availablecolumns} &
380             \datasetvariable{Answer_collectorhelper}{\HelperID}{realavailablecolumns
381            }"},
382    {"answer    ", "\datasetvariable{Answer_collector}  {\QuestionID}{answer}    ",
383     "         ", "                                   "},
384    {"Hanswer   ", "\datasetvariable{Answer_collectorhelper}{\HelperID}{answer}
385     ",
386     "         ", "                                   "},
387    {"mode.status ", "\mode_status                      ",
388     "level.check ", "\level_status                      "},
389    {"Canswerstatus", "\choice_answerstatus                   ",
390     "         ", "                                   "},
391  }

392  \def\show_check_info#1%
393  {\begingroup
394   \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})}
403   \fi
404   \endgroup}

405  \def\dimtonum #1{\number\numexpr \dimexpr #1\relax*635/65536\relax }
406  \newcount\cnt_floor
407  \def\floor#1{\floorhelper#1.\relax}
408  \def\floorhelper#1.#2\relax{\ifx\relax#2\relax#1%
409    \else\if.#2#1\else\floorhelphelper{#1}#2\fi\fi}
410  \def\floorhelphelper#1#2.{\ifnum#2>0%
411    \floorhelphelphelper#1\relax\relax\relax\else#1\fi}
412  \def\floorhelphelphelper#1#2\relax{%
413   \if-#1\relax-\cnt_floor=0#2\relax%
414   \advance\cnt_floor by 1\relax%
415   \number\cnt_floor\relax%
416   \else\cnt_floor=0#1#2\relax%
```

```
417    \number\cnt_floor\relax\fi%
418    }

419    \def\initcollectanswer{\directlua{MultiAnswerCollector = {}}}
420    \def\collectanswer#1{\directlua{table.insert(MultiAnswerCollector, [[#1]])}}
421    \def\collectedanswer{\directlua{tex.sprint(table.concat(MultiAnswerCollector,",")
422    )}}

423    \def\set_envitem_counter{%
424    \ifdefined\currentenvnumber
425     \edef\prevenvnumber{\currentenvnumber}%
426    \fi\initcollectanswer% 初始化多项答案收集器
427    \ifenv_answer  \advance\c_envcounter_toggle by 10\relax\else
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    \fi
444    \doif{\csname \currentenvironment parameter\endcsname\c!example}{true}% 专用于测试
445    是否开启了 example mode
446     {\mode_exampletrue\global\c_envcounter_toggle=999\relax}
447    \edef\currentenvnumber{\the\c_envcounter_toggle}}

448    \def\current_user_order#1{% get user order which can by changed by START
449     \number\csname #1order\endcsname% 獲得的結果類似於 2(4)
450     \ifnum\rawcountervalue[Unicode_botlevel]=0\else%
451     (\rawcountervalue[Unicode_botlevel])\fi}

452    \def\set_currentuserorder[#1]{% set order that user setted
453     \ifcsname #1order\endcsname\else
454     \expandafter\newcount\csname #1order\endcsname\fi
455    \ifenv_toplevel\csname #1order\endcsname=\currentitemnumber
456        \else\csname #1order\endcsname=\parentitemnumber \fi
457    \edef\currentid{\QuestionID}%
458    \edef\currentorder{% get unique order ( no chapter number )
459     \somenamedheadnumber{chapter}{current}-%
460     \rawcountervalue[Unicode_toplevel]-%
461     \rawcountervalue[Unicode_midlevel]-%
462     \rawcountervalue[Unicode_botlevel]}%
463    \edef\currentuserorder{\current_user_order{#1}}%获取上面定义的 #1order
464    \expandafter\show_check_info{\check_info}%
```

```
465  }%专为子级设计来获取父级序号，否则直接获取当前序号

466  \tolerant\def\set_count_envlevel[#1]{% #1 定義 #2order
467   \setcounter[Unicode_midlevel][0]%
468   \setcounter[Unicode_botlevel][0]%
469   \ifdefined\prevenvnumber
470    \ifx\currentenvnumber\prevenvnumber
471      \env_topleveltrue \incrementcounter[Unicode_toplevel]%
472    \else\env_toplevelfalse\incrementcounter[Unicode_midlevel]\fi
473    \else\env_topleveltrue \incrementcounter[Unicode_toplevel]\fi
474   \parentitemnumber=\currentitemnumber\relax
475   \set_currentuserorder[#1]% 创建 #2order 以备使用
476   \inititemnumber%初始化子題目計數器
477  }

478  \tolerant\def\set_count_itemlevel[#1]{%
479   \env_toplevelfalse
480   \ifdefined\prevenvnumber
481    \ifx\currentenvnumber\prevenvnumber
482      \env_botlevelfalse\incrementcounter[Unicode_midlevel]\else
483      \env_botleveltrue \incrementcounter[Unicode_botlevel]\fi
484    \else\env_botlevelfalse\incrementcounter[Unicode_midlevel]%
485   \fi\ifenv_subwriting\env_botleveltrue\fi
486   \set_currentuserorder[#1]%
487   \incrementitemnumber%增長子題目計數器
488  }

489  \def\installdatacollector%
490   {\writestatus{basicexam}{Question (\currentuserorder): answer is (\currentanswer
491   ).}%顯示題號和答案到控制檯
492   \ifmode_check\exam_write_answer\fi
493   \setdataset [Answer_collector][\QuestionID]%收集答案並在未來展開
494       [id={\QuestionID},%
495        envid={\currentenvironment : \the\c_envcounter_toggle : \currentitemgroup}
496        ,%
497        order={\number\currentorder},%
498        userorder={\currentuserorder},%
499        answer={\pass_parameter_answer},%
500        point={\currentpoint},%
501        totalnumber={\datasetvariable{Answer_collectorhelper}{\HelperID}{
502         totalitemnumber}},%
503        totalpoint={\datasetvariable {Answer_collectorhelper}{\HelperID}{
504         totalpoint}},]}

505  \protected\def\installdatacollectorhelper{%
506   \recurseditemnumber%
507   \setdataset [Answer_collectorhelper][\HelperID]%收集信息並在未來展開
508       [totalitemnumber={\the\c_totalitemnumber},
509        totalpoint={\currenttotalpoint},
510        availablecolumns={\currentavailablecolumns},
511        realavailablecolumns={\currentrealavailablecolumns},
512        itemmaxwidth={\currentitemmaxwidth},
```

```
513         answer={\currentanswer},
514         answerstatus={\check_choice_answerstatus},
515       ]%
516    }

517    \def\pass_parameter_answer{%
518     \ifenv_writing\short_writing_answer\else
519      \ifempty\currentanswer there is no answer setted.\else
520     \currentanswer\fi\fi}

521    \def\check_choice_answerstatus{\ifchoice_check checked!\else%
522      unchecked!please set the answer manually by add [*] parameter to citem command.
523       \fi}

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

525    \protected\def\install_point[#1]{%
526     \edef\p_showpoint{\csname #1parameter\endcsname{showpoint}}%
527     \ifempty\p_showpoint\else
528      \ifx\p_showpoint\s!true\mode_showpointtrue
529      \else\mode_showpointfalse
530     \fi\fi
531     \ifx\currentmode\c!point
532      \ifdefined\currentpoint\edef\prevpoint{\currentpoint}\fi
533      \edef\p_point{\csname #1parameter\endcsname\c!point}%暫時定義
534      \ifempty\p_point
535       \ifenv_toplevel% 當處於頂層時, 由於 prev 也未定義, 會拋出錯誤
536        \edef\currentpoint{0}\else% 因此, 直接賦值未 0
537        \edef\currentpoint{\prevpoint}\fi
538       \else%
539        \ifenv_subwriting
540         \edef\currentpoint{\namedwritingparameter{subwriting}\c!point}%
541        \else
542         \edef\currentpoint{\csname #1parameter\endcsname\c!point}%
543        \fi
544       \fi
545     \ifempty\currentpoint% 抓取當前分數值
546      \scratchcounter\zerocount
547     \else
548      \scratchcounter\currentpoint
549     \fi
550     \ifenv_toplevel% 重置分數計算
551      \c_steppoint\zerocount
552      \c_steppoint_temp\zerocount
553     \fi
554     \global\c_steppoint_temp\scratchcounter
555     \ifnum\c_steppoint=0
556      \global\c_steppoint=\c_steppoint_temp
557     \else%
558      \global\c_steppoint=\numexpr\c_steppoint+\c_steppoint_temp\relax
559     \fi% 遞歸出總分數
560     \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
```

```
561    \edef\p_totalitemnumber{\datasetvariable{Answer_collector}{\QuestionID}{
562     totalnumber}}%
563    \doifelsesomething{\p_totalitemnumber}{\scratchcounter\p_totalitemnumber}{
564     \scratchcounter\zerocount}%
565    \writestatus{question info}{currentsteppoint is \the\c_steppoint ::\the
566     \c_steppoint_temp}%
567    % 不知道為什麼，但增加輸出 steppoint 可以獲取正確的最終計數。
568    \ifnum\scratchcounter>1\global\c_steppoint=\numexpr\c_steppoint-
569     \c_steppoint_temp\relax\fi
570    \xdef\currenttotalpoint{\number\currentpoint}%
571    \else%
572    \xdef\currenttotalpoint{\number\c_steppoint}%
573    \fi%
574    \fi
575    }

576    \def\install_answer[#1]{%
577    \edef\p_showanswer{\csname #1parameter\endcsname\c!showanswer}%
578    \ifempty\p_showanswer\else
579     \ifx\p_showanswer\s!true
580        \mode_showanswertrue
581     \else\mode_showanswerfalse
582    \fi\fi
583    \ifx\currentmode\c!answer
584     \ifdefined\currentanswer\edef\prevanswer{\currentanswer}\fi
585     \edef\p_answer{\csname #1parameter\endcsname\c!answer}%暫時定義
586     \ifenv_subwriting\edef\p_answer{\writingparameter\c!answer}\fi
587     \ifempty\p_answer
588      \edef\currentanswer{\prevanswer}%
589     \else%
590      \edef\currentanswer{\csname #1parameter\endcsname\c!answer}%
591      \ifdefined\prevanswer
592       \ifempty\prevanswer\else
593        \ifx\currentanswer\prevanswer\relax\else
594         \writestatus{question info}{%
595          \currentuserorder  : Two conflicting answers have been detected,
596                   check and delete unnecessary answers.}%
597         \writestatus{question info}{%
598          \string\prevanswer  : \prevanswer .
599          \string\currentanswer : \currentanswer .}%
600        \fi
601       \fi
602      \fi
603     \fi
604    \fi}

605    \tolerant\protected\def\show_pointoranswer_text[#1]#*[#2]{{
606    \unskip\csname #1parameter\endcsname{#2style}%
607    \switchtocolor[\csname #1parameter\endcsname{#2color}]%
608    \paren {\csname left_assigned#2label\endcsname % like=>answer : blabla
609     \ifx\currentmode\c!point% if #2 = point
```

```
610    \ifenv_toplevel
611     \point_totalpoint
612    \else
613     \ifenv_answer\point_point\else
614     \currentpoint\fi
615    \fi
616   \else% if #2 = answer。因为 currentXXXanswer 是有定义内容的,
617    \ifmode_example You're in EXAMPLE MODE!\else
618    \ifenv_writing\short_writing_answer\else
619    \datasetvariable{Answer_collector}{\QuestionID}{answer}\fi
620   \fi% 直接获取当前 QID 答案
621   \fi
622  \csname right_assigned#2label\endcsname}}}

623 \def\p_assigned_currentlabel#1#2{%
624  \expandafter\edef%
625   \csname p_current#1#2label%
626    \expandafter\expandafter%
627    \expandafter\endcsname%
628     \expandafter\expandafter%
629      \expandafter{%
630       \csname #1parameter\endcsname{#2label}}}

631 \def\p_pass_currentlabel[#1]{\p_assign_currentlabel[#1,,]}
632 \def\p_assign_currentlabel[#1,#2,#3]#4%
633 {\expandafter\def\csname left_assigned#4label\endcsname {#1}%
634  \expandafter\def\csname right_assigned#4label\endcsname {#2}}

635 \tolerant\protected\def\installpointoranswer[#1]#*[#2]{%#1 parameter %#2 modename
636  \edef\currentmode{#2}% check point or answer
637 \install_point[#1]%
638 \install_answer[#1]%
639 \p_assigned_currentlabel{#1}{#2}%
640  \expandafter\expandafter%
641   \expandafter\p_pass_currentlabel%
642    \expandafter\expandafter%
643     \expandafter[%
644       \csname p_current#1#2label\endcsname]{#2}%
645  \begingroup
646  \csname ifmode_show#2\endcsname
647   \show_pointoranswer_text[#1][#2]%
648   \fi
649  \endgroup}

650 \defineconversion[tnum][\addff{tabularnumbers}]
651 \protected\def\installitemgroupoption[#1][#2]{%
652  \setupitemgroup[env_#1][each][
653              \c!margin={\csname #2parameter\endcsname\c!margin},%
654              \c!leftmargin={\csname #2parameter\endcsname\c!leftmargin},%
655              \c!rightmargin={\csname #2parameter\endcsname\c!rightmargin},%
656            \c!leftmargindistance={\csname #2parameter\endcsname\c!leftmargindistance
657              },%
```

```
658        \c!rightmargindistance={\csname #2parameter\endcsname\c!rightmargindistance
659          },%
660            \c!indentnext={\csname #2parameter\endcsname\c!indentnext},%
661              \c!width={\csname #2parameter\endcsname\c!width},%
662             \c!factor={\csname #2parameter\endcsname\c!factor},%
663           \c!distance={\csname #2parameter\endcsname\c!distance},%
664               \c!step={\csname #2parameter\endcsname\c!step},%
665              \c!align={\csname #2parameter\endcsname\c!align},%
666           \c!symalign={\csname #2parameter\endcsname\c!symalign},%
667              \c!color={\csname #2parameter\endcsname\c!color},%
668          \c!indenting={\csname #2parameter\endcsname\c!indenting},%
669              \c!style={\csname #2parameter\endcsname\c!style},%
670           \c!marstyle={\csname #2parameter\endcsname\c!marstyle},%
671           \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
672          \c!headstyle={\csname #2parameter\endcsname\c!headstyle},%
673           \c!marcolor={\csname #2parameter\endcsname\c!marcolor},%
674           \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
675          \c!headcolor={\csname #2parameter\endcsname\c!headcolor},%
676          \c!beforehead={\csname #2parameter\endcsname\c!beforehead},%
677           \c!symcolor={\csname #2parameter\endcsname\c!symcolor},%
678           \c!symstyle={\csname #2parameter\endcsname\c!symstyle},%
679          \c!afterhead={\csname #2parameter\endcsname\c!afterhead},%
680             \c!before={\csname #2parameter\endcsname\c!before},%
681          \c!inbetween={\csname #2parameter\endcsname\c!inbetween},%
682              \c!after={\csname #2parameter\endcsname\c!after},%
683            \c!stopper={\csname #2parameter\endcsname\c!stopper},%
684       \c!placestopper={\csname #2parameter\endcsname\c!placestopper},%
685            \c!stopper={\csname #2parameter\endcsname\c!stopper},%
686              \c!inner={\csname #2parameter\endcsname\c!inner},%
687                 \c!n={\csname #2parameter\endcsname\c!n},%
688              \c!items={\csname #2parameter\endcsname\c!items},%
689             \c!levels={\csname #2parameter\endcsname\c!levels},%
690           \c!lefttext={\csname #2parameter\endcsname\c!lefttext},%
691          \c!righttext={\csname #2parameter\endcsname\c!righttext},%
692               \c!left={\csname #2parameter\endcsname\c!left},%
693              \c!right={\csname #2parameter\endcsname\c!right},%
694       \c!packcriterium={\csname #2parameter\endcsname\c!packcriterium},%
695          \c!criterium={\csname #2parameter\endcsname\c!criterium},%
696        \c!textdistance={\csname #2parameter\endcsname\c!textdistance},%
697     \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator
698          },%
699     \c!lasttextseparator={\csname #2parameter\endcsname\c!lasttextseparator
700          },%
701            \c!command={\csname #2parameter\endcsname\c!command},%
702          \c!indenting={\csname #2parameter\endcsname\c!indenting},%
703         \c!alignsymbol={\csname #2parameter\endcsname\c!alignsymbol},%
704             \c!symbol={\csname #2parameter\endcsname\c!symbol},%
705             \c!option={\csname #2parameter\endcsname\c!option},%
706     % \c!start={\csname #2parameter\endcsname\c!start},%
707              \c!start={\csname #2parameter\endcsname\c!start},%
```

```
708              \c!state={\csname #2parameter\endcsname\c!state},% % beware, ""
709               == start
710              \c!way={\csname #2parameter\endcsname\c!way},% % wont work if
711               continue on
712              \c!prefix={\csname #2parameter\endcsname\c!prefix},%
713           \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset
714           },%
715           \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion
716           },%
717          \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset
718          },%
719           \c!prefixstarter={\csname #2parameter\endcsname\c!prefixstarter},%
720           \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
721            \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
722          \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments},%
723            \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
724          \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector},
725           %
726          \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset
727          },%
728          \c!numberconversion={\csname #2parameter\endcsname\c!numberconversion
729          },%
730          \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset
731          },%
732           \c!numberstarter={\csname #2parameter\endcsname\c!numberstarter},%
733           \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
734          \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},
735      %      \c!prefix={\csname #2parameter\endcsname\c!prefix},%
736      %    \c!prefixstopper={\csname #2parameter\endcsname\c!prefixstopper},%
737     % \c!prefixseparatorset={\csname #2parameter\endcsname\c!prefixseparatorset}%
738
739     %  \c!prefixconversion={\csname #2parameter\endcsname\c!prefixconversion}%
740
741     % \c!prefixconversionset={\csname #2parameter\endcsname\c!prefixconversionset}%
742
743     %     \c!prefixset={\csname #2parameter\endcsname\c!prefixset},%
744     %   \c!prefixsegments={\csname #2parameter\endcsname\c!prefixsegments}%
745
746     %   \c!prefixconnector={\csname #2parameter\endcsname\c!prefixconnector}%
747
748     % \c!numberseparatorset={\csname #2parameter\endcsname\c!numberseparatorset}%
749
750     % \c!numberconversionset={\csname #2parameter\endcsname\c!numberconversionset}%
751
752      % \c!numberstopper={\csname #2parameter\endcsname\c!numberstopper},%
753      % \c!numbersegments={\csname #2parameter\endcsname\c!numbersegments},
754          ]%
755  }

756  \protected\def\installcounteroption[#1][#2]{%
757   \cdef\currentenv_counter{\v_strc_itemgroups_counter}%
```

758   }

Memoir Ever

6 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 。}
```

---

1. The environment is located in: env_question:1。
2. The environment is located in: env_question:1。
3. The environment is located in: env_question:1。

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

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

---

22. The environment is located in: env_question:1。

---

question 环境可以设置**答案**和**分值**。该键值详细的设置如下：

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

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

---

1. (points5) (answer:new answer) The environment is located in: env_question:1。

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

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。

```
759  \installnamespace        {question}
760  \installcommandhandler \????question {question} \????question

761  \appendtoks
762   \setuevalue    {\currentquestion}{\directnamedquestion[\currentquestion]}%
763   \setuevalue{\e!start\currentquestion}{\startnamedquestion [\currentquestion]}%
764   \setuevalue{\e!stop \currentquestion}{\stopnamedquestion}%
765  \to \everydefinequestion

766  \tolerant\protected\def\directnamedquestion[#S#1]#*[#S#2]{%
767   \groupedcommand{\startnamedquestion[#1][#2]}%
768          {\stopnamedquestion}}

769  \tolerant\protected\def\startnamedquestion[#S#1]#*[#S#2]%
770   {\begingroup
771   \scratchcounterone\currentitemnumber\relax
772   \def\currentquestion{#1}\setupcurrentquestion[#2]%
773   \edef\p_class{\questionparameter\c!class}%
774   \edef\p_start{\questionparameter\c!start}%
775   \edef\p_reset{\questionparameter\c!reset}%
776   \edef\p_option{\questionparameter\c!option}%
777   \edef\p_defaultoption{n,packed,nowhite,joinedup,continue}%
778   \ifx\p_class\s!question
779    \env_questiontrue\set_envitem_counter\fi
780   \ifx\p_class\s!problem
781    \env_problemtrue \set_envitem_counter\fi
782   \ifx\p_class\s!optclose
783    \env_closetrue  \set_envitem_counter\fi
784   \ifx\p_reset\s!true
785    \resetcounter[itemgroup:env_question]\fi
786   \ifx\p_class\s!question
787    \ifmode_example
788    \installitemgroupoption[example][question]%
789    \startitemgroup[env_example]\else
790    \installitemgroupoption[question][question]%
791    \startitemgroup[env_question]\fi
792    \item[\questionparameter\c!reference]%
793    \increaseQuestionID% 具有獨立答案，增長 QID
794    \set_count_envlevel [question]%
795    \installpointoranswer[question][point]%
796    \installpointoranswer[question][answer]
797   \fi
798   \ifx\p_class\s!problem
799    \ifmode_example
800    \installitemgroupoption[example][question]%
801    \startitemgroup[env_example]\else
```

```
802    \installitemgroupoption[problem][question]%
803    \startitemgroup[env_problem]\fi
804    \set_count_envlevel [problem]%
805    \ifenv_toplevel\else
806     \decreaseQuestionID% 直接获取 question 的 ID
807     \parentitemnumber=\scratchcounterone\relax
808    \fi
809    \fi
810    \ifx\p_class\s!optclose
811    \ifmode_example
812    \installitemgroupoption[example][question]%
813    \startitemgroup[env_example]\else
814    \installitemgroupoption[question][question]%
815    \startitemgroup[env_question]
816    \fi
817    \leftskip=0pt\relax
818    \set_count_envlevel[question]
819    \fi
820    \save_question_order\removeunwantedspaces}

821    \protected\def\stopnamedquestion{%
822    \ifnum\c_envcounter_toggle=1\relax
823    \installdatacollectorhelper
824    \installdatacollector\fi
825    \ifx\p_class\s!problem
826     \installdatacollectorhelper
827    \fi
828    \initcollectanswer
829    \stopitemgroup
830    \endgroup}

831    \definequestion[question]

832    \setupquestion
833     [class=question,
834    %example=,
835    %showpoint=false,
836    %point=,
837    pointstyle=\ttx,
838    %pointcolor=,
839    %pointprelabel=,
840    pointlabel={,\examtexts{point}},
841    %showanswer=false,
842    %answer=,
843    answerlabel={\examtexts{answer},},
844    answerstyle=\ss,
845    answercolor=red,
846    indenting=no,
847    way=bychapter,
848    numberconversion=tnum,]

849    \setupquestion
```

```
850    [\c!margin=\zeropoint,
851    \c!leftmargin=\zeropoint,
852    \c!rightmargin=\zeropoint,
853    \c!leftmargindistance=\zeropoint,
854    \c!rightmargindistance=\zeropoint,
855    \c!indentnext=\v!yes,
856    \c!width=1.5\emwidth,
857    \c!factor=0,
858    \c!step=.5\emwidth, % deals with broad
859    \c!distance=\zeropoint,
860    %\c!align=\v!normal, % definitely not \v!normal !
861    %\c!symalign=,
862    %\c!color=,
863    %\c!indenting=, % untouched if empty
864    %\c!style=,
865    \c!marstyle=\v!type,
866    %\c!symstyle=,
867    %\c!headstyle=,
868    %\c!marcolor=,
869    %\c!symcolor=,
870    %\c!headcolor=,
871    %\c!beforehead=,
872    \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
873    \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
874    \c!afterhead=\blank,
875    \c!before=,
876    \c!inbetween=,
877    \c!after=,
878    %\c!stopper=.,
879    \c!placestopper=\v!yes,
880    \c!stopper={. },
881    %\c!inner=,
882    \c!n=2,
883    \c!items=4,
884    \c!levels=10,
885    \c!lefttext=,
886    \c!righttext=,
887    \c!start=1,
888    \c!packcriterium=\zerocount,
889    \c!criterium=\v!all, % permits 0 and negative numbers
890    \c!option={n,packed,joinedup,nowhite,continue},
891    \c!textdistance=\v!space, % none big medium small <dimension>
892    \c!lasttextseparator=\itemgroupparameter\c!textseparator,
893    %\c!lasttextseparator=,
894    \c!command=\strc_itemgroups_default_command,
895    \c!indenting=\v!next,
896    %\c!alignsymbol=v!no,
897    \c!symbol=\currentitemlevel,
898    \c!prefix=\v!no,
899    %\c!prefixstopper=.,
900    %\c!prefixseparatorset=,
```

```
901    %\c!prefixconversion=,
902    %\c!prefixconversionset=,
903    %\c!prefixset=,
904    %\c!prefixsegments=1:100,
905    \c!prefixconnector=.,
906    \c!numberseparatorset=,
907    \c!numberconversionset=,
908    \c!numberstopper=.,
909    \c!numbersegments=1]
```

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7 设置 problem 环境 / Problem Environment

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

```
\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
```

---

2. The environment is located in: env_question:1。
   (1)   The environment is located in: env_problem:2。
   (2)   The environment is located in: env_problem:2。
   (3)   The environment is located in: env_problem:2。

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 。
  \setupitem[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
```

3. 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`

```
910  \definequestion[problem]
911  \def\setupproblem{\setupquestion[problem]}

912  \setupproblem
913    [\c!class=\s!problem,
914     \c!lefttext={(},
915     \c!righttext={)},
916     \c!option={n,packed,joinedup,nowhite},]
```

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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
```

---

4. (answer:A,C)The environment is located in: env_question:1。
   A. Some Words   B. Some Words   C. Some Words   D. Some Words
5. (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
6. (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樣式。因为 choice 环境的特殊性，point 键值通过 question 环境来显示。和 question 环境的區別是 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 環境有一個特別的值： maxiwidth key is for calcaluted max width of choice and waited to be compare， notice this key is maxiwidth ,and difference from maxwidth which for setupitemgroup command

```
917  \installnamespace    {choice}
918  \installcommandhandler \????choice  {choice}  \????choice

919  \appendtoks
920   \setuevalue    {\currentchoice}{\directnamedchoice[\currentchoice]}%
921   \setuevalue{\e!start\currentchoice}{\startnamedchoice [\currentchoice]}%
922   \setuevalue{\e!stop \currentchoice}{\stopnamedchoice}%
923  \to \everydefinechoice

924  \setupchoice [answerstyle=\ss\tf,
925       answercolor=red,
926       inlinechoice=false,
927       point=\questionparameter\c!point,
928       maxiwidth=.9\textwidth,
929       numberconversion=A,]

930  \tolerant\protected\def\directnamedchoice[#1]#*[#2]#*#:#3%
931  {\begingroup
932   \def\currentchoice{#1}\setupcurrentchoice[#2]%
933   \startnamedchoice[#1]%
934   \def\citem_temp##1{\startcitem##1\stopcitem}%
935   \def\correct##1{##1\collectanswer{##1}}%
936   \processcommacommand[#3]\citem_temp
937   \stopnamedchoice\endgroup}

938  \tolerant\protected\def\startnamedchoice[#S#1]#*[#S#2]%
939  {\begingroup\def\currentchoice{#1}%
940  \ifnum\c_envcounter_toggle = 2\relax
941   \errmessage{you cannot put choice in problem environment.
942       choice env can only be putted in question environment.}\fi
943  \env_choicetrue\set_envitem_counter
944  \ifdefined\currentuserorder
945   \expandafter\show_check_info{\check_info}%
946  \else
947  \ifnum\c_envcounter_toggle = 3\relax
948  \else \set_count_envlevel[choice]\fi
949  \fi
950  \doifelsesomething{\datasetvariable{Answer_collectorhelper}{\HelperID}{
951   totalitemnumber}}% arg_1
952   {\scratchcounter\datasetvariable{Answer_collectorhelper}{\HelperID}{
953    totalitemnumber}}% arg_2
954   {\scratchcounter\zerocount}% arg_3
955  \current_total_choice_number=\number\scratchcounter\relax
```

```
956  \doifelsesomething{\datasetvariable{Answer_collectorhelper}{\HelperID}{
957   availablecolumns}}%
958   {\scratchcounter\datasetvariable{Answer_collectorhelper}{\HelperID}{
959    availablecolumns}}%
960   {\scratchcounter\zerocount}%
961  \current_available_columns=\number\scratchcounter\relax
962  \startluacode
963  tbl_num_temp = {"one","two","three","four",
964        "five","six","seven","eight","nine"}
965  local tbl_cit_count    = tex.count['current_total_choice_number']
966  local available_columns  = tex.count['current_available_columns']
967     available_columns_arg = ""
968  if  (tbl_cit_count == 3) and (available_columns < tbl_cit_count)
969  then  available_columns_arg = "one"
970  elseif (tbl_cit_count > 1) and (available_columns >= tbl_cit_count)
971  then  available_columns_arg = "horizontal," .. tbl_num_temp[tbl_cit_count]
972  elseif (tbl_cit_count >= 1) and (available_columns <=     1 )
973  then  available_columns_arg = "one"
974  else  available_columns_arg = "horizontal,two"
975  end
976  \stopluacode
977  \edef\currentrealavailablecolumns{\ctxlua{context(available_columns_arg,"")}}%
978  \setupcurrentchoice[#2]%
979  \edef\currentanswer {\choiceparameter\c!answer   }%
980  \edef\p_option    {\choiceparameter\c!option   }%
981  \edef\p_showanswer {\choiceparameter\c!showanswer }%
982  \edef\p_choicetype {\choiceparameter\c!inlinechoice}%
983  \edef\p_correctsymbol{\choiceparameter{correctsymbol}}%
984  \edef\p_defaultoption{A,packed,nowhite,joinedup}%
985  \installitemgroupoption[choice][choice]%
986  \ifx\p_choicetype\s!true
987   \startitemgroup[env_choice][text,\p_option]\else
988   \startitemgroup[env_choice][\ctxlua{context(available_columns_arg,"")},
989   \p_option]\fi
990  \choiceparameter\c!inlineleft
991  \ifmode_showanswer\else
992   \ifx\p_showanswer\s!true
993     \mode_showanswertrue
994   \else\mode_showanswerfalse\fi
995  \fi\removeunwantedspaces}

996  \protected\def\stopnamedchoice{%
997  \removemarkedcontent[inlinechoice_punctuation]%
998  \d_maxwidth_with_label = \dimexpr\d_width_cit_max  +
999        \d_strc_itemgroups_list_width \relax
1000 \d_compared_maxwidth = \choiceparameter{maxiwidth}  \relax
1001 \startluacode
1002  local a = tex.dimen['d_compared_maxwidth']
1003  local b = tex.dimen['d_maxwidth_with_label']
1004     c = math.floor(a/b)
1005 \stopluacode
```

```
1006    \edef\currentchoiceanswer{\collectedanswer}%
1007    \ifempty\currentchoiceanswer
1008     \edef\currentanswer{\prevanswer}% 讓 choice 繼承前一個答案
1009    \else
1010     \edef\currentanswer{\collectedanswer}%
1011    \fi
1012    \def\currentavailablecolumns{\ctxlua{context(c,"")}}%
1013    \def\currentitemmaxwidth  {\the\d_width_cit_max}%
1014    \doifelsesomething{\choiceparameter\c!point}%
1015     {\scratchcountertwo\choiceparameter\c!point}%
1016     {\scratchcountertwo\zerocount}%
1017    \edef\currentpoint  {\the\scratchcountertwo}%
1018    \edef\currenttotalpoint{\the\scratchcountertwo}%
1019    \installdatacollector%
1020    \installdatacollectorhelper%
1021    \initcollectanswer
1022    \choiceparameter\c!inlineright
1023    \stopitemgroup
1024    \endgroup}

1025  \setupchoice
1026    [\c!margin=\zeropoint,
1027     \c!leftmargin=\zeropoint,
1028     \c!rightmargin=\zeropoint,
1029     \c!leftmargindistance=\zeropoint,
1030     \c!rightmargindistance=\zeropoint,
1031     \c!indentnext=\v!yes,
1032     \c!width=1\emwidth,
1033     \c!factor=0,
1034     \c!step=.5\emwidth, % deals with broad
1035     \c!distance=.5\emwidth,
1036    %\c!align=\v!normal, % definitely not \v!normal !
1037    %\c!symalign=,
1038    %\c!color=,
1039    %\c!indenting=, % untouched if empty
1040    %\c!style=,
1041     \c!marstyle=\v!type,
1042    %\c!symstyle=,
1043    %\c!headstyle=,
1044    %\c!marcolor=,
1045    %\c!symcolor=,
1046    %\c!headcolor=,
1047    %\c!beforehead=,
1048     \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
1049     \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
1050     \c!afterhead=\blank,
1051     \c!before=,
1052     \c!inbetween=,
1053     \c!after=,
1054    %\c!stopper=.,
1055     \c!placestopper=\v!yes,
```

```
1056        \c!stopper={. },
1057      %\c!inner=,
1058        \c!n=2,
1059        \c!items=4,
1060        \c!levels=10,
1061        \c!lefttext=,
1062        \c!righttext=,
1063        \c!start=1,
1064        \c!packcriterium=\zerocount,
1065        \c!criterium=\v!all, % permits 0 and negative numbers
1066        \c!option={A,packed,joinedup,nowhite,},
1067        \c!textdistance=\v!space, % none big medium small <dimension>
1068        \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1069      %\c!lasttextseparator=,
1070        \c!command=\strc_itemgroups_default_command,
1071        \c!indenting=\v!next,
1072      %\c!alignsymbol=v!no,
1073        \c!symbol=\currentitemlevel,
1074        \c!prefix=\v!no,
1075      %\c!prefixstopper=.,
1076      %\c!prefixseparatorset=,
1077      %\c!prefixconversion=,
1078      %\c!prefixconversionset=,
1079      %\c!prefixset=,
1080      %\c!prefixsegments=1:100,
1081        \c!prefixconnector=.,
1082        \c!numberseparatorset=,
1083        \c!numberconversionset=,
1084        \c!numberstopper=.,
1085        \c!numbersegments=1]

1086    \definechoice[choice]
1087    \definechoice[inlinechoice]
1088    \tolerant\def\setupinlinechoice[#1]{\setupchoice[inlinechoice][#1]}

1089    \setupinlinechoice[option={text,8,packed,joinedup,nowhite,},
1090            inlinechoice=\s!true,
1091            correctsymbol={\symbol{marksquarecheck}},
1092            inlineleft={ (\nobreak},
1093            inlineright={\nobreak ) },
1094            %lefttext={},
1095            %righttext={},
1096            answerstyle=\ss,
1097            %stopper=,
1098            %showanswer=,% shoule be empty before used
1099            separator={\removeunwantedspaces,\space},
1100            ]
```

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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
```

---

7. (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*

8. (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*

```
1101  \installnamespace      {writing}
1102  \installcommandhandler \????writing {writing} \????writing

1103  \appendtoks
1104  \setuevalue{\e!start\currentwriting}{\startnamedwriting[\currentwriting]}%
1105  \setuevalue{\e!stop \currentwriting}{\stopnamedwriting}%
1106  \to \everydefinewriting
```

```
1107  \tolerant\protected\def\startnamedwriting[#S#1]#*[#S#2]
1108    {\begingroup\env_writingtrue\set_envitem_counter
1109    \edef\currentwriting{#1}%
1110    \setupanswer[showanswer=false]%
1111    \setupcurrentwriting[#2]%注意, writing 没有单独的 itemgroup 环境
1112    \edef\short_writing_answer{\writingparameter\c!answer}%
1113    \edef\currentanswer{\writingparameter\c!answer}%
1114    \edef\getanswercontent{}%
1115    \edef\p_writingtype{\writingparameter{subwriting}}%
1116    \installitemgroupoption[question][writing]%
1117    \startitemgroup[env_question]%
1118    \item[\writingparameter\c!reference]%
1119    \ifx\p_writingtype\s!true
1120     \env_subwritingtrue
1121     \set_envitem_counter
1122     \ifnum\currentitemnumber=1\relax
1123        \decreaseQuestionID\increaseQuestionID
1124     \else\increaseQuestionID\fi
1125     \set_count_itemlevel[subwriting]%
1126    % 当具有多个子写作环境时，才增长 QID ，
1127    % 否则削减至父级 QID（相当于继承）
1128    \else
1129     \increaseQuestionID
1130     \set_count_envlevel[writing]
1131    \fi
1132    \installpointoranswer[writing][point]%
1133    \installpointoranswer[writing][answer]%
1134    \save_question_order\removeunwantedspaces}

1135  \protected\def\stopnamedwriting{%
1136    \ifnum\c_totalitemnumber<2\relax% 只有一個子項目
1137      \ifenv_subwriting% 是子作文
1138      \installdatacollector%
1139      \installdatacollectorhelper%
1140      \initcollectanswer
1141    \else% 是作文
1142      \edef\currentpoint{\writingparameter\c!point}
1143      \edef\currenttotalpoint{\writingparameter\c!point}
1144      \c_totalitemnumber=1\relax
1145      \installdatacollector%
1146      \installdatacollectorhelper%
1147      \initcollectanswer
1148    \fi
1149    \else% 擁有多個子項目
1150    \fi\stopitemgroup\endgroup}

1151  \setupwriting
1152    [\c!answer={参见参考作文。},
1153    \c!pointlabel={,\examtexts{point}},
1154    \c!margin=\zeropoint,
1155    \c!leftmargin=\zeropoint,
```

```
1156    \c!rightmargin=\zeropoint,
1157    \c!leftmargindistance=\zeropoint,
1158    \c!rightmargindistance=\zeropoint,
1159    \c!indentnext=\v!yes,
1160    \c!width=1.5\emwidth,
1161    \c!factor=0,
1162    \c!step=.5\emwidth, % deals with broad
1163    \c!distance=\zeropoint,
1164    %\c!align=\v!normal, % definitely not \v!normal !
1165    %\c!symalign=,
1166    %\c!color=,
1167    %\c!indenting=, % untouched if empty
1168    %\c!style=,
1169    \c!marstyle=\v!type,
1170    %\c!symstyle=,
1171    %\c!headstyle=,
1172    %\c!marcolor=,
1173    %\c!symcolor=,
1174    %\c!headcolor=,
1175    %\c!beforehead=,
1176    \c!symcolor=\itemgroupparameter\c!color, % new per 2012.01.17
1177    \c!symstyle=\itemgroupparameter\c!style, % new per 2012.01.17
1178    \c!afterhead=\blank,
1179    \c!before=,
1180    \c!inbetween=,
1181    \c!after=,
1182    %\c!stopper=.,
1183    \c!placestopper=\v!yes,
1184    \c!stopper={. },
1185    %\c!inner=,
1186    \c!n=2,
1187    \c!items=4,
1188    \c!levels=10,
1189    \c!lefttext=,
1190    \c!righttext=,
1191    \c!start=1,
1192    \c!packcriterium=\zerocount,
1193    \c!criterium=\v!all, % permits 0 and negative numbers
1194    \c!option={n,packed,joinedup,nowhite,continue},
1195    \c!textdistance=\v!space, % none big medium small <dimension>
1196    \c!lasttextseparator=\itemgroupparameter\c!textseparator,
1197    %\c!lasttextseparator=,
1198    \c!command=\strc_itemgroups_default_command,
1199    \c!indenting=\v!next,
1200    %\c!alignsymbol=v!no,
1201    \c!symbol=\currentitemlevel,
1202    \c!prefix=\v!no,
1203    %\c!prefixstopper=.,
1204    %\c!prefixseparatorset=,
1205    %\c!prefixconversion=,
1206    %\c!prefixconversionset=,
```

```
1207   %\c!prefixset=,
1208   %\c!prefixsegments=1:100,
1209   \c!prefixconnector=.,
1210   \c!numberseparatorset=,
1211   \c!numberconversionset=,
1212   \c!numberstopper=.,
1213   \c!numbersegments=1]

1214   \definewriting[writing]
1215   \definewriting[subwriting]
1216   \def\setupsubwriting{\setupwriting[subwriting]}
1217   \setupsubwriting
1218   [answer={参见参考作文。},
1219    subwriting=true,
1220    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。该环境提供了一個特殊的鍵值 sctipt，該鍵值主要用於創建答題區域。該鍵值和 showanswer 鍵值是互斥的，不應該同時啟用。

\answer 是爲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，並可以爲其編寫答案解析。

```
\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
```

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

> (answer:answer for env_question:1)(12pts)
> *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.*

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

---

11. **(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.*

```
1221   \installnamespace {answer}
1222   \installnamespace {answeralternative}
1223   \installnamespace {answerrenderings}

1224   \installcommandhandler \????answer       {answer}      \????answer
1225   \installcommandhandler \? ? ? ?answeralternative {answeralternative}
1226    \????answeralternative

1227   \appendtoks
1228     \frozen\instance\protected\edefcsname       \currentanswer\endcsname{
1229     \answer_direct_instance}%
1230     \frozen\protected\instance\edefcsname\e!start\currentanswer\endcsname{
1231     \answer_start_instance [\currentanswer]}%
```

```
1232    \frozen\protected\instance\letcsname \e!stop \currentanswer\endcsname
1233      \answer_stop_instance
1234   \to \everydefineanswer

1235   \tolerant\protected\def\answer_direct_instance[#S#1]#:#2%
1236    {\begingroup
1237     \cdef\currentanswer{#1}%
1238     \doif{\answerparameter{showanswer}}{true}{\mode_showanswertrue}%
1239     \ifmode_showanswer
1240      \useanswerstyleandcolor\c!style\c!color
1241      \answerparameter\s!command
1242      {#2}
1243     \fi
1244     \endgroup
1245     \edef\currentanswer{#2\collectanswer{#2}}
1246     \edef\prevanswer  {\currentanswer}}
1247   % 只有一個功能，收集答案。
1248   % 具備簡單的樣式控制和控制答案顯隱。
1249   % \setupanswer[command=\groupedcommand{\bf}{},style=,color=,showanswer=]

1250   \permanent\protected\def\startanswer
1251    {\begingroup
1252     \edef\currentanswer_bak{\currentanswer}%
1253     \lettonothing\currentanswer
1254     \doifelsenextoptionalcs\answer_start_delayed\answer_start_indeed}

1255   \def\answer_start_delayed[#S#1]%
1256    {\doifelseassignmentcs{#1}%
1257      \answer_start_delayed_parameters
1258      \answer_start_delayed_name
1259     [#1]}

1260   \def\answer_start_delayed_parameters[#S#1]%
1261    {\setupcurrentanswer[#1]%
1262     \answer_start_indeed}

1263   \def\answer_start_delayed_name[#1]%
1264    {\cdef\currentanswer{#1}%
1265     \checkanswerparent
1266     \doifelsenextoptionalcs\answer_start_delayed_parameters\answer_start_indeed}

1267   \protected\tolerant\def\answer_start_instance[#S#1]#*[#S#2]%
1268    {\begingroup\env_answertrue\set_envitem_counter
1269     \edef\currentanswer_bak{\currentanswer}% 備份之前的答案
1270   % \lettonothing\currentanswer%釋放currentanswer
1271     \cdef\currentanswer{#1}%
1272     \setupcurrentanswer[#2]%
1273     \grabbufferdatadirect
1274   % {\s!answer:\currentanswer}%
1275     {\s!answer}% unnested, as before
1276     {\e!start\currentanswer}%
1277     {\e!stop \currentanswer}}
```

```
1278  \def\answer_start_indeed
1279  {\grabbufferdatadirect
1280  % {\s!answer:\currentanswer}%
1281   {\s!answer}% unnested, as before
1282   {\csstring\startanswer}%
1283   {\csstring\stopanswer}}

1284  \permanent\protected\def\stopanswer
1285  {\answerparameter\c!before
1286  \dostarttagged\t!answer\currentanswer
1287  \begingroup
1288  \useanswerstyleandcolor\c!style\c!color
1289  \usealignparameter\answerparameter
1290  \edef\currentansweralternative{\answerparameter\c!alternative}%
1291  \ifcsname\currentansweralternativehash\s!parent\endcsname \else
1292   \let\currentansweralternative\s!default
1293  \fi
1294  \usesetupsparameter\answerparameter
1295  \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1296  \directsetup\p_renderingsetup
1297  \tolerant\protected\xdef\getanswercontent[##1]% only for writing env
1298   {\getbufferdata[\s!answer]}%
1299  \endgroup
1300  \dostoptagged
1301  \answerparameter\c!after
1302  \endgroup}

1303  \aliased\let\answer_stop_instance\stopanswer

1304  \permanent\tolerant\protected\def\getanswerbuffer   [#1]{\getbufferdata[\s!answer
1305   ]}
1306  \permanent\tolerant\protected\def\getinlineanswerbuffer[#1]{\inlinebuffer [
1307   \s!answer]}

1308  \defineansweralternative
1309   [\s!default]
1310   [\c!renderingsetup=\????answerrenderings:\s!default]

1311  \startsetups[\????answerrenderings:\s!default]
1312  \doif{\answerparameter {showscript}}{true}{\mode_showscripttrue
1313   \mode_showanswerfalse}%
1314  \doif{\answerparameter\c!showanswer} {true}{\mode_showanswertrue
1315   \mode_showscriptfalse}%
1316  \doif{\answerparameter\c!showpoint} {true}{\mode_showpointtrue}%
1317  \setuptextbackground[env_answer]%
1318  [location=paragraph,width=local,
1319  leftoffset=1ex,rightoffset=1ex,
1320  %topoffset=.5ex,bottomoffset=.5ex,
1321  before={\leftskip=0pt\startnarrower},
1322  after={\stopnarrower},
1323  background=\answerparameter\c!background,
1324  backgroundcolor=\answerparameter\c!backgroundcolor,
```

```
1325    corner=\answerparameter\c!corner,
1326    frame=\answerparameter\c!frame,
1327    framecolor=\answerparameter\c!framecolor,
1328    rulethickness=\answerparameter\c!rulethickness,
1329    ]%
1330    \startenv_answer
1331    \useanswerstyleandcolor\c!style\c!color
1332    \ifenv_material% 可以用来做文章翻译或内容解释,
1333     \getanswerbuffer%        % 也可以直接放置在文章之后，或这每一个段落之后
1334    \else
1335     \ifmode_showscript
1336       \answerparameter{scriptcontent}%
1337     \else
1338      \noindent
1339      \begingroup
1340      \edef\currentmode{answer}%
1341      \p_assigned_currentlabel{answer}{answer}%
1342      \expandafter\expandafter%
1343       \expandafter\p_pass_currentlabel%
1344        \expandafter\expandafter%
1345         \expandafter[%
1346           \csname p_currentansweranswerlabel\endcsname]{answer}%
1347      \ifmode_showanswer
1348       \show_pointoranswer_text[answer][answer]%
1349      \fi\endgroup
1350      \begingroup
1351      \edef\currentmode{point}%
1352      \p_assigned_currentlabel{answer}{point}%
1353      \expandafter\expandafter%
1354       \expandafter\p_pass_currentlabel%
1355        \expandafter\expandafter%
1356         \expandafter[%
1357           \csname p_currentanswerpointlabel\endcsname]{point}%
1358      \ifmode_showpoint
1359       \show_pointoranswer_text[answer][point]%
1360      \fi\endgroup
1361      \ifmode_showanswer
1362        \answerparameter\c!inbetween
1363        \getanswerbuffer
1364      \fi
1365     \fi
1366    \fi
1367    \stopenv_answer
1368    \stopsetups

1369    \tolerant\protected\def\startoldanswer[#1]#:#2\stopoldanswer%
1370    {\begingroup\env_answertrue\set_envitem_counter
1371    \lettonothing\currentanswer%释放currentanswer
1372    \lettonothing\getanswerbuffer\lettonothing\getinlineanswerbuffer
1373    % currentanswer 命令已經被其他環境定義為答案獲取命令,
1374    % 此處的 currentanswer 是定義環境命令, 需要重新釋放。
```

```
1375    \cdef\currentanswer{#1}%
1376    \setupcurrentanswer[#2]%
1377    \edef\getanswerbuffer{#2}%
1378    \usesetupsparameter\answerparameter
1379    \edef\p_renderingsetup{\answeralternativeparameter\c!renderingsetup}%
1380    \directsetup\p_renderingsetup
1381    \tolerant\protected\xdef\getanswercontent[##1]% only for writing env
1382      {#2}%%
1383    \endgroup}

1384    \startuseMPgraphic{normalframeMP}
1385     draw unitsquare xyscaled (\overlaywidth, \overlayheight);
1386    \stopuseMPgraphic
1387    \defineoverlay    [normalframeOL][\useMPgraphic{normalframeMP}]

1388    \def\getanswerforanswer{% used for answer env to auto get answer
1389    \ifenv_writing\short_writing_answer
1390    \else\datasetvariable{Answer_collector}{\QuestionID}{answer}\fi}

1391    \def\getpointforanswer{% used for answer env to auto get point
1392     \datasetvariable{Answer_collector}{\QuestionID}{point}}

1393    \setupanswer
1394      [showanswer=true,
1395      showpoint=true,
1396      answer=\getanswerforanswer,
1397      point=\getpointforanswer,
1398      answerlabel={{\examtexts{answer}}},
1399      pointlabel={,\examtexts{point}},
1400      pointstyle=\answerparameter\c!style,
1401      pointcolor=\answerparameter\c!color,
1402      answerstyle=\answerparameter\c!style,
1403      answercolor=\answerparameter\c!color,
1404      style=\ss\it,
1405      before=\blank[halfline],
1406      after=\blank[halfline],
1407      inbetween={\par},
1408      showscript=false,
1409      %scriptcontent={},
1410      \c!alternative=\s!default,
1411      background=normalframeOL,%% for env_answer textbackground
1412      %backgroundcolor=,
1413      %corner=,
1414      frame=on,
1415      %framecolor=,
1416      %rulethickness=,
1417      ]
1418    \defineanswer[answer]
```

11 设置 pitem,citem 命令

```
1419  \installnamespace         {pitem}
1420  \installsimplecommandhandler \????pitem  {pitem}  \????pitem

1421  \setuppitem  [%showpoint=,
1422          %point=,
1423          pointstyle=\ttx,
1424          %pointcolor=,
1425          pointlabel={,\examtexts{point}},
1426          answerlabel={\examtexts{answer},},
1427          %showanswer=,
1428          %answer=,
1429          answerstyle=\ss,
1430          answercolor=red,
1431          %reference=,
1432          ]

1433  \tolerant\protected\def\startpitem[#1]{\begingroup%
1434   \item_pitemtrue\increaseQuestionID%
1435   \iffirstargument\setuppitem[#1]\fi%
1436   \startitem[\pitemparameter{reference}]%
1437   \ifenv_question% 設計上的問題, 此時 pitem 處於 botlevel, 否則處於 toplevel。
1438   \set_count_itemlevel [pitem]\else\ifenv_problem%
1439   \set_count_envlevel [pitem]\fi\fi%
1440   \installpointoranswer[pitem][point]%
1441   \installpointoranswer[pitem][answer]%
1442   \removeunwantedspaces}

1443  \def\stoppitem{%
1444   \ifitem_fillin\edef\currentanswer{\collectedanswer}\fi
1445   \installdatacollector%
1446   \installdatacollectorhelper%
1447   \initcollectanswer% 清空收集 fillin 的答案
1448   \stopitem\endgroup}
```

[*](用于标记正确答案)

```
1449  \installnamespace         {citem}
1450  \installsimplecommandhandler \????citem  {citem}  \????citem

1451  \setupcitem[
1452  %style=,
1453  %color=,
1454  ]

1455  \protected\def\check_correct_choice#1#2{%
1456  \usecitemstyleandcolor\c!style\c!color
1457  \ifmode_showanswer
1458   \edef\p_correctmark_m{*}\edef\p_correctmark_p{#1}%
1459   \ifx\p_correctmark_p\p_correctmark_m
1460    \edef\p_answerstyle{\choiceparameter\c!answerstyle}%
1461    \edef\p_answercolor{\choiceparameter\c!answercolor}%
```

```
1462    \ifx\p_choicetype\s!true
1463     \bgroup
1464      \ifempty\p_answerstyle
1465          \questionparameter\c!answerstyle
1466        \else\choiceparameter \c!answerstyle\fi
1467       \ifempty\p_answercolor
1468          \switchtocolor[\questionparameter\c!answercolor]%
1469        \else \switchtocolor[\choiceparameter \c!answercolor]\fi
1470      \sym{\ifempty\p_correctsymbol\symbol{marksquarecheck}\else
1471          \p_correctsymbol\fi}% correct inline choice
1472      #2\collectanswer{#2}\egroup
1473     \else
1474      \startitem[\citemparameter\c!reference]{%
1475       \ifempty\p_answerstyle
1476          \questionparameter\c!answerstyle
1477        \else\choiceparameter \c!answerstyle\fi
1478       \ifempty\p_answercolor
1479          \switchtocolor[\questionparameter\c!answercolor]%
1480        \else \switchtocolor[\choiceparameter \c!answercolor]\fi
1481          #2}
1482      \stopitem% correct normal choice
1483     \fi
1484     \else
1485      \startitem[\citemparameter\c!reference]#2\stopitem% correct choice without *
1486     \fi
1487    \else
1488     \startitem[\citemparameter\c!reference]#2\stopitem% choice
1489    \fi
1490    \ifx\p_choicetype\s!true
1491     \markcontent[inlinechoice_punctuation]{\choiceparameter\c!separator}%
1492    \fi}

1493 \protected\def\get_citem_text[#1]{\setbox0=\hbox{#1}%
1494   \d_width_cit = \the\wd0\relax%relax is neccessary
1495   \ifdim \d_width_cit_max > \d_width_cit%
1496      \d_width_cit_max = \d_width_cit_max%
1497   \else \d_width_cit_max = \d_width_cit%
1498   \fi}%%%% 遞歸計算出最大寬度

1499 \tolerant\protected\def\startcitem[#1]#*[#2]#:#3\stopcitem{% #1 correct answer
1500   \ifsecondargument\setupcitem[#2]\fi%          #2 option
1501 \get_citem_text[#3]%                  #3 choice content
1502   \edef\p_correctmark_p{#1}\edef\p_correctmark_m{*}%
1503 \incrementitemnumber
1504 \ifx\p_choicetype\s!true\else
1505 \ifx\p_correctmark_p\p_correctmark_m
1506   \edef\currentanswerindex{\the\c_currentitemnumber}
1507   \edef\correct_choice_index{\convertnumber{\choiceparameter{numberconversion}}{
1508    \currentanswerindex}}%
1509   \collectanswer{\correct_choice_index}% collect current normal answer
1510   \fi\fi
```

```
1511    \doif{#1}{*}{\choice_checktrue}%
1512    \check_correct_choice{#1}{#3}%
1513    \removeunwantedspaces}
```

Memoir Ever

12 定义同义命令

12.(answer:F,C)
    A. a   B. F   C. E
13.(answer:F,sF)   (□ a, □ F, ☑ sF)

```
1514  \def\pitem{\dosingleempty\pitem_indeed}
1515  \def\pitem_indeed[#1]#2{
1516   \startpitem[#1]{#2}\stoppitem}

1517  \def\citem{\dosingleempty\citem_indeed}
1518  \def\citem_indeed[#1]#2{%
1519   \startcitem[#1]{#2}\stopcitem}

1520  \tolerant\protected\def\fastchoice[#1]#:#2{
1521   \startchoice[#1]
1522    \def\citem_temp##1{\startcitem##1\stopcitem}
1523    \def\correct##1{##1\collectanswer{##1}}
1524    \processcommacommand[#2]\citem_temp
1525   \stopchoice}

1526  \tolerant\protected\def\fastchoicealt[#1]#:#2{
1527   \startinlinechoice[#1]
1528    \def\citem_temp##1{\startcitem##1\stopcitem}
1529    \def\correct##1{##1\collectanswer{##1}}
1530    \processcommacommand[#2]\citem_temp
1531   \stopinlinechoice}
```

谨慎使用下面的 fragilecitem，他并不安全。很有可能导致错误

```
1532  \bgroup
1533  \obeylines
1534  \gdef\xcitem{\bgroup\obeylines\dosingleempty\doxcitem}%
1535  \gdef\doxcitem[#1]#2
1536   {\egroup%
1537   \doifsomethingelse{#1}%
1538   {\startcitem[*]#2\stopcitem}%
1539   {\startcitem #2\stopcitem}%
1540   }%
1541  \egroup

1542  \let\fragilecitem\xcitem
```

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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。

```
1543  \installnamespace      {fillin}
1544  \installcommandhandler \????fillin  {fillin}  \????fillin

1545  \setupfillin[%foregroundcolor=,
1546        %before=,after=,
1547        %left=,right=,
1548        %repeat=,mp=
1549        rule=fillin_text,% 引用 bar 命令
1550        empty=none,
1551        continue=yes,
1552        unit=em,
1553        order=foreground,
1554        method=0,
1555        %color=gray,
1556        width=4em,
1557        n=10,
1558        dy=-0.4,
1559        max=3,
1560        offset=-.1,
1561        rulethickness=.05,
1562        foregroundstyle=\ss,]

1563  \tolerant\protected\def\fillin[#1]#:#2{%
1564  \item_pitemfalse\item_fillintrue
1565  \begingroup\removeunwantedspaces
1566  \iffirstargument\setupfillin[#1]\fi
1567  \setupbar[fillin_text][%
1568      rulethickness=\fillinparameter{rulethickness},
1569    foregroundcolor=\fillinparameter{foregroundcolor},
1570    foregroundstyle=\fillinparameter{foregroundstyle},
1571      continue=\fillinparameter{continue},
1572        unit=\fillinparameter{unit},
1573       order=\fillinparameter{order},
1574      method=\fillinparameter{method},
1575        dy=\fillinparameter{dy},
1576       max=\fillinparameter{max},
1577      width=\fillinparameter{width},
1578       left=\fillinparameter{left},
1579      right=\fillinparameter{right},
1580      repeat=\fillinparameter{repeat},
```

```
1581            color=\fillinparameter{color},
1582           offset=\fillinparameter{offset},
1583          empty=\fillinparameter{empty},
1584            mp=\fillinparameter{mp}]%
1585     \global\advance\c_fillin_number by 1\relax
1586     \edef\p_n{\fillinparameter\c!n}%
1587     \edef\p_empty{\fillinparameter\c!empty}%
1588     \edef\p_number{\number\c_fillin_number}%
1589     \edef\p_align{\fillinparameter\c!align}%
1590     \edef\currentbar{\fillinparameter\c!rule}%
1591     \ifx\p_align\c!autoright
1592      \unskip\nobreak\hfill\penalty50\hskip2em\hbox{}\nobreak\hfill\fi
1593     \fillinparameter\c!before\fillinparameter\c!left
1594     \ifx\p_n\wildcardsymbol
1595       \donefalse
1596       \ifx\p_empty\v!yes\donetrue
1597       \else\ifx\p_empty\v!number\donetrue
1598       \else\ifx\p_empty\v!none\donetrue
1599       \fi\fi\fi
1600       \ifdone
1601        \ifmode_showanswer
1602         \setupfillin[empty=none]%
1603        \else
1604         \setupbar[\currentbar][\c!empty=\v!yes]%
1605        \fi
1606        \edef\p_empty{\fillinparameter\c!empty}%
1607       \fi
1608       \inlinebar[\currentbar]\bgroup
1609         \wordboundary#2\egroup
1610      \else
1611       \ifmode_showanswer\setupfillin[empty=none]\fi
1612       \edef\p_empty{\fillinparameter\c!empty}%
1613       \inlinebar[\currentbar]\bgroup
1614        \wordboundary\scratchcounter\numexpr\p_n\relax
1615        \ifx\p_empty\v!yes
1616          \interwordspacesbefore\scratchcounter
1617          \interwordspacesafter\scratchcounter
1618        \else\ifx\p_empty\v!number
1619          \interwordspacesbefore\scratchcounter
1620          \zwnj\runninghbox{\resetbar\p_number}\zwnj
1621          \interwordspacesafter\scratchcounter
1622        \else\ifx\p_empty\v!none
1623          \scratchcounter\numexpr\p_n/\plustwo\relax
1624          \interwordspacesbefore\scratchcounter
1625          \zwnj{{#2}}\zwnj
1626          \interwordspacesafter\scratchcounter
1627        \else#2\fi\fi\fi
1628       \egroup
1629      \fi
1630     \fillinparameter\c!right\fillinparameter\c!after
1631     \ifx\p_align\c!autoright
```

```
1632    \parfillskip=0pt \finalhyphendemerits=0 \par\fi
1633    \aftergrouped{\edef\currentanswer{\collectanswer{#2}#2}}
1634    \endgroup}
```

Memoir Ever

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
```

<div style="border:1px solid">

(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_EX 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

</div>

```
1635  \installnamespace     {material}
1636  \installcommandhandler \????material {material} \????material
1637  \installcounterassociation {material}

1638  \appendtoks
1639   \registermaterialcounter\currentmaterial
1640   \definecounter[\currentmaterial]%
1641  \to \everydefinematerial
```

```
1642  \appendtoks
1643    \synchronizematerialcounters
1644  \to \everysetupmaterial

1645  \definematerial [material]
1646  \definematerial [number]
1647  \definematerial [indicator]
1648  \definematerial [indicator_helper]

1649  \setupmaterial [\c!align=center,
1650          %\c!color=,
1651          %\c!style=,
1652          \c!spacebefore=1em,
1653          \c!spaceafter=1em,
1654          %\c!title=,
1655          %\c!author=,
1656          %\c!source=,
1657          \c!indicator=continue,
1658          indent={first,always,2em},]
1659  \setupmaterial [\c!number] [\c!before={(},\c!after={)},
1660              \c!prefix=no,\c!start=0,
1661              \c!style=\namedmaterialparameter\c!title\c!style,
1662              \c!color=\namedmaterialparameter\c!title\c!color,
1663              \c!numberconversion=cn,\c!way=\v!by\v!chapter]
1664  \setupmaterial [\c!title] [\c!style=\ss\tfa,\c!color=,\c!align=center,
1665              \c!before=,]
1666  \setupmaterial [\c!author] [\c!style=\tf,\c!color=,\c!align=flushright]
1667  \setupmaterial [\c!source] [\c!before=\par,\c!align=flushright]
1668  \setupmaterial [indicator,indicator_helper]
1669          [style=\ss\bf,before={ (~},after={~) },prefix=no,
1670          numberconversion=cn,type=line,reset=false]

1671  \def\material_counter_parameter#1%
1672   {\begingroup
1673    \def\currentmaterial{#1}%
1674    \setupalign[\namedmaterialparameter\c!title\c!align]
1675    \usematerialstyleandcolor\c!style\c!color
1676    \namedmaterialparameter\currentmaterial\c!before
1677    \incrementcounter[#1]\convertedcounter[#1]%
1678    \namedmaterialparameter\currentmaterial\c!after
1679   \endgroup}

1680  \def\material_parameter#1%creat new element in material
1681   {{\begingroup
1682    \def\currentmaterial{#1}%
1683    \setupalign[\namedmaterialparameter\currentmaterial\c!align]
1684    \usematerialstyleandcolor\c!style\c!color
1685    \namedmaterialparameter\currentmaterial\c!before
1686    \rootmaterialparameter\currentmaterial
1687    \namedmaterialparameter\currentmaterial\c!after
1688    \par\endgroup}}
```

```
1689  \tolerant\protected\def\startmaterial[#1]{\begingroup%
1690    \lettonothing\currentmaterial%%
1691    \edef\p_indicator{\rootmaterialparameter\c!indicator}
1692    \edef\p_reset{\namedmaterialparameter{indicator}\c!reset}
1693    \processaction[\p_indicator][
1694     reset=>\let\indicator_reset_helper\resetindicators,
1695    continue=>\continue_countertrue\let\indicator_reset_helper\relax,]
1696    \processaction[\p_reset][
1697     true=>\let\indicator_reset_helper\resetindicators,
1698     false=>\continue_countertrue\let\indicator_reset_helper\relax,]
1699    \env_materialtrue\set_envitem_counter%
1700    \iffirstargument\setupcurrentmaterial[#1]\fi
1701    \indicator_reset_helper
1702    \usematerialstyleandcolor\c!style\c!color%
1703    \blank[\rootmaterialparameter\c!spacebefore]
1704    \startalignment[\rootmaterialparameter\c!align]
1705      \material_counter_parameter\c!number
1706      \material_parameter\c!title
1707      \material_parameter\c!author
1708    \stopalignment
1709    \blank[\rootmaterialparameter\c!spaceafter]
1710    \setupindenting[\rootmaterialparameter{indent}]
1711    \removeunwantedspaces}
1712  \def\stopmaterial{%
1713    \material_parameter\c!source
1714    \indicator_reset_helper
1715    \endgroup}

1716  \tolerant\protected\def\indicator[#1]#:#2{\begingroup%
1717    \def\currentmaterial{indicator}
1718    \iffirstargument\setupmaterial[indicator][#1]\fi%
1719    \edef\indicator_type{\namedmaterialparameter\currentmaterial\c!type}%
1720    \edef\indicator_reset{\namedmaterialparameter\currentmaterial\c!reset}%
1721    \processaction[\indicator_type]%
1722        [line=>\let\indicator_type\underbar,%
1723         none=>\let\indicator_type\relax]%
1724    \usematerialstyleandcolor\c!style\c!color%
1725    \indicator_type{%
1726    \namedmaterialparameter\currentmaterial\c!before%
1727    \ifmode_check%
1728     \ifenv_material\color[red]{material}\else\color[red]{\currentitemgroup}\fi%
1729     \ifcontinue_counter\color[red]{continue}\fi%
1730    \fi%
1731    \ifenv_material%
1732     \ifmode_check\color[red]{::indicator}\fi%
1733     \incrementcounter[\currentmaterial]%
1734     \convertedcounter[\currentmaterial]%
1735    \else%
1736     \ifmode_check\color[red]{::helper}\fi%
1737     \incrementcounter[indicator_helper]%
1738     \convertedcounter[indicator_helper]%
```

```
1739    \fi%
1740    \namedmaterialparameter\currentmaterial\c!after%
1741    #2}
1742  \endgroup}

1743  \def\indicators{%%% TODO 增強該命令的用法
1744   \ifenv_material
1745   \ifmode_check\color[red]{::indicator}\fi
1746   \incrementcounter[indicator]%
1747   \convertedcounter[indicator]%
1748   \else
1749   \ifmode_check\color[red]{::helper}\fi
1750   \incrementcounter[indicator_helper]%
1751   \convertedcounter[indicator_helper]%
1752   \fi}
1753  \def\resetindicators{\setcounter[indicator][0]%
1754          \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 ____14____ the course earlier than she did. Her ____15____ came because she was carrying a ____16____ across the finish line.

As reported by a local newspaper, Bailey was more than two-thirds of the way through her ____17____ when a runner in front of her began crying in pain. She ____18____ to help her fellow runner, Danielle Lenoue. Bailey took her arm to see if she could walk forward with ____19____ . She couldn't. Bailey then ____20____ 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 ____21____ attention.

Once there, Lenoue was ____22____ 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 ____23____ to make it to that aid checkpoint without Bailey's help.

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

```
1755  \setupclose[%showanswer=false,
1756      reset=false,
1757      %barstyle=,
1758      %barcolor=,
1759      showpoint=false,
1760      answerstyle=\ss,
1761      answercolor=red,
1762      width=2em,% set order width
1763      frame=off,% set order frame
1764      stopper=.,% set order stopper
1765      distance=.5em,% set order distance
1766      after=\blank[halfline]]

1767  \c_closetest=1\relax
1768  \tolerant\protected\def\closebar#1{
1769   \startbar[underbar]%
1770    \scratchcounter\numexpr16/\plustwo\relax
1771    \interwordspacesbefore\scratchcounter
1772     \zwj\runninghbox{\resetbar{#1}}\zwj
1773    \interwordspacesafter\scratchcounter
1774    \stopbar}

1775  \def\closechoice[#1]{% 這是用戶命令，用來記錄選項(定義選項列表)
1776    \expandafter\def\csname close:\romannumerals\c_closetest\endcsname{#1}%
1777  % 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
1778  % 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
1779  % 該計數器屬於局域，每篇文章都會重置回 1。
1780    \ifclose_counter_reset
1781     \begingroup
```

```
1782      \setupbar[underbar]%
1783       [color=\closeparameter{barcolor},
1784       mp=\closeparameter{barstyle}]%
1785      \closebar{\number\c_closetest}%
1786     \endgroup
1787    \else
1788     \begingroup\let\par\relax% 將其封裝在局域, 避免 par 命令失效
1789      \setupbar[underbar]%
1790      [color=\closeparameter{barcolor},
1791      mp=\closeparameter{barstyle}]%
1792     \startitemgroup[env_question][n,continue,text,nostopper]%
1793                [lefttext=\closebar,righttext=]%
1794     \item \save_question_order
1795      \stopitemgroup
1796     \endgroup
1797    \fi\advance\c_closetest by 1\relax}

1798  \def\close_order{%選項前的序號樣式, 序號通過 tempa 設定
1799   \unskip\noindent
1800   \inframed[width=\closeparameter\c!width,
1801       frame=\closeparameter\c!frame,
1802       foreground=color,
1803       foregroundcolor=\closeparameter\c!color,
1804       foregroundstyle=\closeparameter\c!style]{%
1805    \convertnumber{n}{\number\c_closetest_tempa}%
1806    \closeparameter\c!stopper}%
1807   \hskip\closeparameter\c!distance\relax
1808   \global\advance\c_closetest_tempa by 1\relax
1809   \unskip}

1810  \def\docloseitem#1{\startcitem #1\stopcitem}
1811  \def\placeclosechoice{%
1812   \scratchcounter\numexpr\c_closetest-1\relax
1813   \c_closetest=1\relax%
1814   \dorecurse{\number\scratchcounter}{% start recurse
1815   \hbox{% start first box
1816    \hsize=\textwidth
1817    \increaseQuestionID
1818    \set_count_envlevel [close]%
1819    \installpointoranswer[close][point]%
1820    \installpointoranswer[close][answer]%
1821    \edef\currentitemnumber{\the\c_closetest_tempa}%
1822    \edef\currentuserorder{%
1823     \currentitemnumber%放置在這裡才能正確獲取題號
1824     \ifnum\rawcountervalue[Unicode_botlevel]=0\else% 抽出 order 定義,
1825      (\rawcountervalue[Unicode_botlevel])\fi}% 因為該環境沒有上級 question 環境
1826    \hbox{\close_order}% close question index box
1827    \hbox{\vtop{% close question choice box start
1828     \startchoice[point=\closeparameter\c!point]%
1829      \processcommacommand[\csname close:\romannumerals\c_closetest\endcsname]
1830       \docloseitem%
```

```
1831        \stopchoice
1832      }}%  close question choice box stop
1833   }% stop first hbox
1834  \advance\c_closetest by 1\relax}% stop reucrse
1835  \c_closetest=1\relax%
1836  }

1837  \tolerant\protected\def\startclose[#1]%
1838  {\begingroup\env_closetrue\set_envitem_counter
1839  \iffirstargument\setupclose[#1]\fi
1840  \edef\p_reset{\closeparameter\c!reset}%
1841  \ifx\p_reset\s!true
1842   \close_counter_resettrue
1843  \else
1844   \close_counter_resetfalse
1845  \fi\restore_question_order
1846  \ifclose_counter_reset% 如果重置，則序號起自 1
1847   \c_closetest_tempa=1\relax% tempa 标记文章内的序号和选项前的序号
1848  \else % 否則，恢復上一問題序號，並遞增1.
1849   \c_closetest_tempa=\rawcountervalue[strc_close_counter]%
1850   \c_closetest_tempa=\numexpr\c_closetest_tempa+1\relax
1851  \fi
1852  \closeparameter\c!before
1853  \useclosestyleandcolor\c!style\c!color
1854  \removeunwantedspaces}

1855  \def\stopclose{%
1856  \closeparameter\c!after
1857  \placeclosechoice
1858  \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 (铝). These sepals open on warm days \ocitem[answer=to give]{give} the
inside plants sunshine and fresh air. In cold weather, the structure stays
\ocitem[answer=closed]{close} to protect the plants.

Further, the Silk Route Garden around the greenhouse \ocitem[answer=walks]{walk}
visitors through a journey 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 ____24____ (engineer) techniques are applied to create this protective ____25____ (function) structure that is also beautiful. The design features ten steel "sepals(萼片)" made of glass and aluminium (铝). These sepals open on warm days ____26____ (give) the inside plants sunshine and fresh air. In cold weather, the structure stays ____27____ (close) to protect the plants.

Further, the Silk Route Garden around the greenhouse ____28____ (walk) visitors through a journey influeVLed by the aVLient Silk Road, by which silk as well as many plant species came to Britain for ____29____ first time. These plants iVLluded modern Western ____30____ (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 ____31____ 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 ____32____ brought the plants from their native habitat in Asia to come to define much of the ____33____ (rich) of gardening in England.

```
1859  \installnamespace    {ocitem}
1860  \installcommandhandler \????ocitem  {ocitem}  \????ocitem

1861  \setupocitem [%answer=,
1862      %color=,
```

```
1863        %point=,
1864        %showanswer=false,
1865        pointlabel={,\examtexts{point}},
1866        answerlabel={{\examtexts{answer}},},
1867        answercolor=red,
1868        answerstyle=\ss,]

1869 \definequestion[optclose]
1870 \definequestion[specialocitem]
1871 \def\setupoptclose{\setupquestion[optclose]}
1872 \def\setupspecialoptclose{\setupquestion[specialocitem]}

1873 \setupquestion[optclose]
1874 [option={n,continue,text,nostopper},
1875 lefttext=\closebar,
1876 righttext=,
1877 reset=false,
1878 class=optclose,]

1879 \setupquestion[specialocitem]
1880 [option={n,continue,text,nostopper},
1881 lefttext=\closebar,
1882 righttext=,
1883 reset=false,]

1884 \tolerant\protected\def\ocitem[#1]#:#2%
1885  {\begingroup%
1886  \iffirstargument\setupocitem[#1]\fi%
1887  \useocitemstyleandcolor\c!style\c!color%
1888  \let\par\relax\increaseQuestionID%
1889  \item \parentitemnumber=\currentitemnumber\relax
1890     \set_count_itemlevel[ocitem]%%%% 必須命令，設定序號
1891     % 注意，此时 toplevel 并没有正确的关闭，因此最终的结果依然是 toplevel。
1892     % 但是该环境本身就被视为 toplevel      => 5
1893     % 如果该环境被视为子项目时，则需要关闭 toplevel。==> 5(1)
1894     % 另外，关闭 toplevel 需要在 set_count_itemlevel 命令之前才会生效。
1895     \allowbreak\doifsomethingelse{#2}{(#2)}{}% 放置選項，類似 inlinechoice
1896     \edef\currentpoint{\ocitemparameter\c!point}%
1897     \edef\currentanswer{\ocitemparameter\c!answer}%
1898     \installpointoranswer[ocitem][point]%
1899     \installpointoranswer[ocitem][answer]%
1900     \installdatacollector%
1901     \installdatacollectorhelper%
1902     \initcollectanswer
1903     \save_question_order%
1904  \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}\\
```

```
1905  \def\score_calc#1{% only show number
1906    \global\c_stepscore_temp=#1\relax%
1907    \ifnum\c_stepscore=0\global\c_stepscore=#1\relax\else%
1908    \global\c_stepscore=\numexpr\c_stepscore+\c_stepscore_temp\relax%
1909    \fi\number\c_stepscore%
1910  }
1911  \def\dotfill{\leavevmode%
1912    \xleaders\hbox to 0.25em{\hfil.\hfil}%
1913    \hfill\kern 0pt\relax}
1914  \def\cdotfill{\leavevmode%
1915    \xleaders\hbox to 0.25em{\hfil$\cdot$\hfil}%
1916    \hfill\kern 0pt\relax}

1917  \installnamespace      {score}
1918  \installcommandhandler \????score {score} \????score

1919  \setupscore[style=\ssa,color=red,dotstyle=\ss,dotcolor=red,score=]

1920  \tolerant\protected\def\score[#1]#:#2{\begingroup% format style
1921    \iffirstargument\setupscore[#1]\fi%
1922    \scoreparameter\c!before%
1923    \usescorestyleandcolor\c!style\c!color%
1924    \start\space\scoreparameter{dotstyle}%
1925    \switchtocolor[\scoreparameter{dotcolor}]%
1926    \doif{\scoreparameter\c!type}{}{\dotfill}%
1927    \doif{\scoreparameter\c!type}{space}{}%
1928    \doif{\scoreparameter\c!type}{hfill}{\unskip\hfill}%
1929    \doif{\scoreparameter\c!type}{dotfill}{\dotfill}%
1930    \doif{\scoreparameter\c!type}{cdotfill}{\cdotfill}%
1931    \space\stop\scoreparameter\c!left%
1932    \doif{\scoreparameter{score}}{}      {#2}%
1933    \doif{\scoreparameter{score}}{default}  {#2}%
1934    \doif{\scoreparameter{score}}{calculation}{\score_calc{#2}}%
1935    \doif{\scoreparameter{score}}{complex}  {#2 : \score_calc{#2}}%
1936    \scoreparameter\c!right\scoreparameter\c!after%
1937  \par\endgroup}
1938  \def\resetscore{%
1939  \c_stepscore_temp=0\relax%
1940    \c_stepscore=0\relax%
1941  }
```
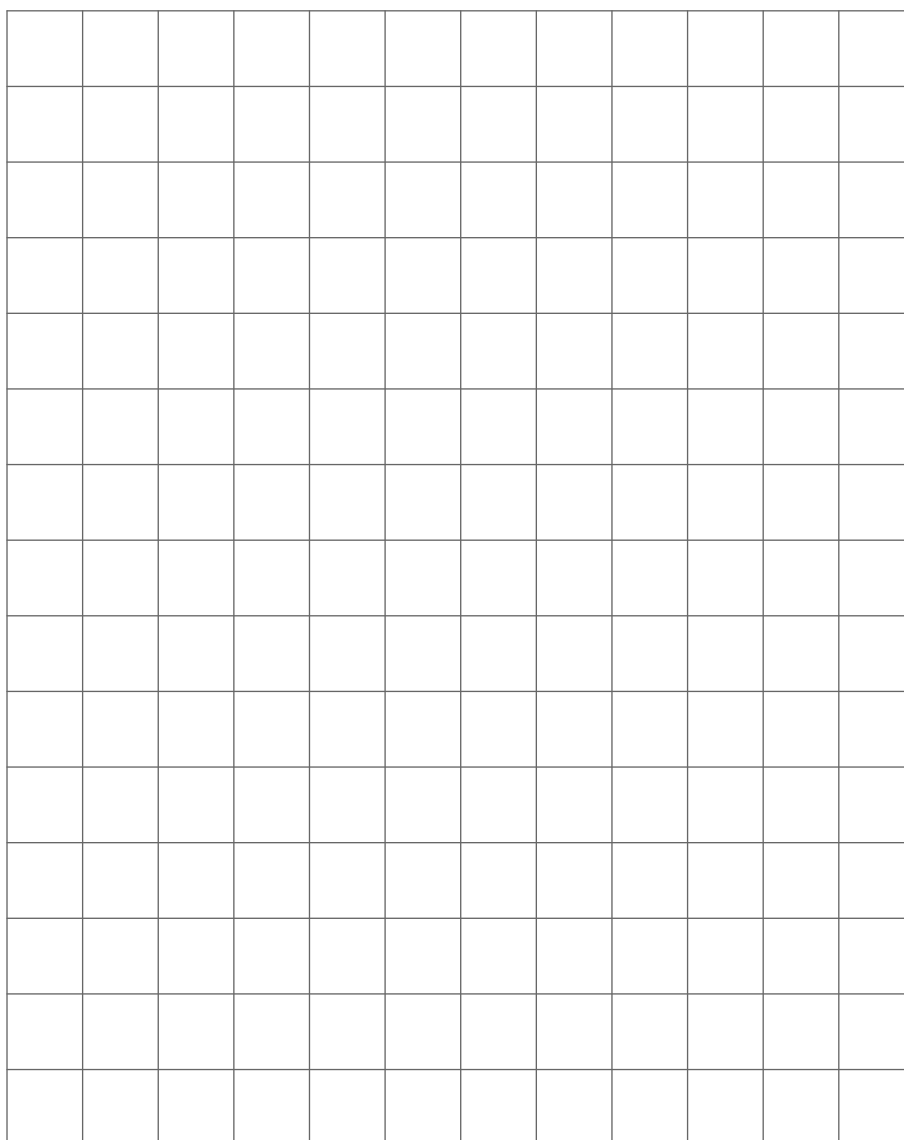
Memoir Ever

18   作文格 / Writing Box

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

Memoir Ever

```
1942  \startuseMPgraphic{grid:writingbox}{column,row,evenheight,oddheight,}
1943  pageWidth  := OverlayWidth;
1944  evenRows  := \MPvar{row};
1945  evenHeight := \MPvar{evenheight};
1946  oddHeight  := \MPvar{oddheight};
1947  evenColumns := \MPvar{column};
1948  oddColumns := evenColumns + 1;

1949  %%% 绘制偶数行
1950  for i = 1 upto evenColumns: % 可以根据需要调整行数
1951   y1 := i * (oddHeight + evenHeight) + oddHeight;
1952   y2 := y1 + evenHeight;
1953   for j = 0 upto evenRows - 1:
1954     x1 := j * (pageWidth / evenRows);
1955     x2 := x1 + (pageWidth / evenRows);
1956     draw (x1, y1) -- (x2, y1) -- (x2, y2) -- (x1, y2) -- cycle
1957       withcolor \MPvar{evencolor};
1958   endfor;
1959  endfor;

1960  %%% 绘制奇数行
1961  for i = 1 upto oddColumns: % 可以根据需要调整行数
1962   y1 := i * (oddHeight + evenHeight);
1963   y2 := y1 + oddHeight;
1964   draw (0, y1) -- (pageWidth, y1) -- (pageWidth, y2) -- (0, y2) -- cycle
1965     withcolor \MPvar{oddcolor};
1966  endfor;
1967  \stopuseMPgraphic

1968  \defineoverlay
1969  [writingbox]
1970  [{\uniqueMPgraphic{grid:writingbox}{
1971  evencolor=\framedparameter{evencolor},
1972   oddcolor=\framedparameter{oddcolor},
1973   column=\framedparameter{column},
1974     row=\framedparameter{row},
1975  evenheight=\framedparameter{evenheight},
1976  oddheight=\framedparameter{oddheight},
1977  }}]

1978  \defineframed[writingbox]
1979  [offset=overlay,
1980  background=writingbox,
1981  frameoffset=.5pt,
1982  column=12,
1983  row=15,
1984  evencolor=blue,
1985  oddcolor=darkgray,
1986  evenheight=1cm,
1987  oddheight=.5cm,
1988  align=flushleft,
1989  height=\textheight,
```

```
1990    width=\textwidth,
1991    rulethickness=1pt]

1992    \startuseMPgraphic{grid:writinggrid}{row,column,cellwidth,cellcolor}
1993    pageWidth  := OverlayWidth;
1994    m := \MPvar{row};    % 行数
1995    u := \MPvar{cellwidth}; % 单位长度
1996    n := \MPvar{column};  % 列数
1997    % 画竖线
1998    for i = 0 upto n:
1999      draw (i*u, 0) -- (i*u, m*u) withcolor \MPvar{cellcolor};
2000    endfor;

2001    % 画横线
2002    for j = 0 upto m:
2003      draw (0, j*u) -- (n*u, j*u) withcolor \MPvar{cellcolor};
2004    endfor;
2005    \stopuseMPgraphic

2006    \defineoverlay
2007    [writinggrid]
2008    [{\uniqueMPgraphic{grid:writinggrid}{
2009      column=\framedparameter{column},
2010        row=\framedparameter{row},
2011    cellwidth=\framedparameter{cellwidth},
2012    cellcolor=\framedparameter{cellcolor},
2013    }}]

2014    \defineframed[writinggrid]
2015     [offset=overlay,
2016      background=writinggrid,
2017      frameoffset=.5pt,
2018      cellwidth=1cm,
2019      column=12,
2020      row=15,
2021      cellcolor=darkgray,
2022      align=flushleft,
2023      height=\textheight,
2024      width=\textwidth,
2025      rulethickness=1pt]
```

Memoir Ever

19 模拟例子

```
2026  \dorecurse{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
2027  \expandafter\getrandomnumber \csname n_\romannumeral\recurselevel\endcsname {1} {
2028  20}}}
```

```
2029  \dorecurse{2000}{% 一旦总例子数超过，则无法继续生成，并抛出错误。
2030  \expandafter\getrandomnumber \csname nn_\romannumeral\recurselevel\endcsname {1}
2031  {20}}}
```

```
2032  \def\longtesttxt[#1]{%%1. \longtesttxt[\romannumeral 1]
2033  \ifcase\csname n_#1\endcsname%
2034  就像按 S 来响应错误一样。\or%0
2035  这个例子不太完整，因为页码没有存储在有用的地方。\or%1
2036  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
2037  %2
2038  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
2039  %3
2040  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
2041  性。\or%4
2042  正如 TeX 不会随机连字符单词一样，它也不会在段落中的行之间随机打断数学表达式。\or%5
2043  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
2044  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
2045  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
2046  此命令将框寄存器中的列表副本添加到当前列表中。\or%9
2047  请注意，每个寄存器在创建后都会被初始化。\or%0
2048  此命令提供了一种直接指定分隔符的方法。\or%1
2049  数字应该是七个十六进制数字。\or%2
2050  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
2051  Plain TeX 有二十多个定义，类似于：`\type{\def\rceil\delimiter"5265307 }}'。\or%4
2052  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
2053  7"。\or%5
2054  \type{\Delimiter} 指定了一个数学符号，并以两种方式工作。\or%6
2055  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
2056  \type{\delcode}。\or%7
2057  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}
2058  }。\or%8
2059  对于 \type{\rceil}，这意味着 \type{\delcode} 是"265307，\type{\mathcode} 是"5265"。
2060  \or%9
2061  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}
```

```
2062  \def\shorttesttxt[#1]{%%1. \shorttesttxt[i]
2063  \ifcase\csname nn_#1\endcsname%
2064  悬挂压痕的数量\or%0
2065  段落中正线的宽度\or%1
2066  开始一个没有缩进的新段落\or%2
2067  告诉TeX尝试增加或减少段落中的行数\or%3
2068  扩展令牌，但在到达非空间令牌之前什么都不做\or%4
2069  只有当主垂直列表为空时，它才会结束当前工作\or%5
2070  该命令在内部垂直模式下是不允许的\or%6
2071  任意中断由三个字符序列组成\or%7
```

```
2072        另一个无效号码被传递了\or%8
2073        来自假部分的条件命令\or%9
2074        线路需要转移的金额\or%0
2075        用于指定显示样式\or%1
2076        关系后断线的惩罚\or%2
2077        此命令定义了宏\or%3
2078        家庭的脚本字体\or%4
2079        尺寸没有变化\or%5
2080        额外的空间\or%6
2081        左边的段落\or%7
2082        当前线宽\or%8
2083        文本样式\or%9
2084        序列\fi}

2085    \tolerant\protected\def\choicenum[#1][#2][#3]{
2086      \ifnum\csname nn_#1\endcsname < 6
2087        \expandafter\startcitem[*]{\shorttesttxt[\romannumeral #2]} \stopcitem
2088      \else
2089        \expandafter\startcitem {\shorttesttxt[\romannumeral #3]} \stopcitem
2090      \fi
2091    }

2092    \newcount\LNUM\LNUM=1\relax
2093    \newcount\CNUM\CNUM=1\relax
2094    \newcount\DNUM\DNUM=1\relax
2095    \newcount\ENUM\ENUM=2\relax

2096    \protected\def\example@choice#1{
2097      \setupquestion[point=2]
2098      \dorecurse{#1}{
2099      \startquestion
2100      \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
2101        \startchoice
2102        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2103        \global\advance\CNUM by 1\relax\global\advance\DNUM by 2\relax\global
2104         \advance\ENUM by 2\relax
2105        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2106        \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2107        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2108        \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2109        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2110        \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
2111        \stopchoice
2112        % \startanswer
2113        % \input knuthmath
2114        % \stopanswer
2115      \stopquestion}
2116    }
2117    \def\example@fillin#1{
2118      \setuppitem [point=3]
2119      \startquestion
2120       \longtesttxt[\romannumeral\LNUM]
```

```
2121    \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
2122    \startproblem
2123    \dorecurse{#1}{
2124     \startpitem
2125     \longtesttxt[\romannumeral\CNUM]\fillin[]{\fillinanswer}
2126     \stoppitem
2127    % \startanswer
2128    %    \input knuthmath
2129    %    \stopanswer
2130    \global\advance\CNUM by 1\relax}
2131    \stopproblem
2132    \stopquestion
2133    }
2134    \def\example@pitem#1{
2135      \startquestion
2136      \longtesttxt[\romannumeral\LNUM]
2137      \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
2138      \startproblem
2139      \dorecurse{#1}{
2140      \startpitem[answer={answer : \recurselevel},point={\number\CNUM}]
2141      \longtesttxt[\romannumeral\CNUM]\stoppitem
2142      % \startanswer
2143      %    \input knuthmath
2144      % \stopanswer
2145      \global\advance\CNUM by 1\relax}
2146      \stopproblem
2147      \stopquestion
2148    }
2149    \def\example@material#1{
2150      \startmaterial
2151      \input knuthmath
2152      \stopmaterial
2153      \setupquestion[point=6]
2154      \dorecurse{#1}{
2155      \startquestion
2156      \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
2157         \startchoice
2158         \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2159         \global\advance\CNUM by 1\relax%
2160         \global\advance\DNUM by 2\relax%
2161         \global\advance\ENUM by 2\relax%
2162         \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2163         \advance\CNUM by 1\relax%
2164         \advance\DNUM by 1\relax%
2165         \advance\ENUM by 2\relax%
2166         \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2167         \advance\CNUM by 1\relax%
2168         \advance\DNUM by 1\relax%
2169         \advance\ENUM by 2\relax%
2170         \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
2171         \advance\CNUM by 1\relax%
```

```
2172        \advance\DNUM by 1\relax%
2173        \advance\ENUM by 2\relax%
2174      \stopchoice
2175      % \startanswer
2176      %   \input knuthmath
2177      % \stopanswer
2178    \stopquestion}
2179  }
2180  \def\example@close#1{
2181    \startclose
2182    \def\closechoicex{\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by 1
2183      \relax}
2184    \dorecurse{#1}{
2185      \dorecurse{3}{
2186        \longtesttxt[\romannumeral\CNUM]
2187        \global\advance\CNUM by 1\relax
2188      }\closechoice[\closechoicex,{[*]\closechoicex},\closechoicex]
2189      \longtesttxt[\romannumeral\CNUM]}
2190    \stopclose
2191  }

2192  \def\example@optclose#1{
2193    \startoptclose
2194    \def\closechoicex{{\ss\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by
2195      1\relax}}
2196    \dorecurse{#1}{
2197      \dorecurse{3}{
2198        \longtesttxt[\romannumeral\CNUM]
2199        \global\advance\CNUM by 1\relax
2200      }\ocitem[point=4,answer={\shorttesttxt[\romannumeral\DNUM]}]%
2201          {\closechoicex,\closechoicex,\closechoicex}
2202      \longtesttxt[\romannumeral\CNUM]}
2203    \stopoptclose
2204  }

2205  \def\example@specialoptclose#1{
2206    \dorecurse{#1}{
2207      \dorecurse{3}{
2208        \longtesttxt[\romannumeral\CNUM]
2209        \global\advance\CNUM by 1\relax
2210      }\specialocitem[point=2,answer={\shorttesttxt[\romannumeral\DNUM]}]{}
2211        \global\advance\DNUM by 1\relax
2212      \longtesttxt[\romannumeral\CNUM]}
2213  }
```

20 打印答案 / Print answer / 答えの輸出

```
2214  \newcount\c_qid_answer

2215  \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}
```

```
2216  \tolerant\def\typeanswerbychap[#1]#:#2%
2217  {\begingroup% #1 = QID,  #2 =chap number
2218  \ifparameter#1\or
2219   \doifsomethingelse{\scratchcounterone#1}{\scratchcounterone#1}{
2220    \scratchcounterone\zerocount}%
2221   \c_qid_answer=\numexpr\scratchcounterone -1\relax\fi
2222   \scratchcounter#2\relax
2223   \global\advance\c_qid_answer by 1\relax
2224   \datasetvariable{Answer_collector}{\the\scratchcounter-\the\c_qid_answer}{answer
2225    }%
2226   \endgroup}
```

Example 2:

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

```
2227  \def\typeanswerdirect#1{% #1 = qid, 需要自行輸入來獲取某個題目的答案
2228   \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
```

```
2229  \tolerant\protected\def\typeanswerlist[#chapno][#startno]#*#:#total{%#1 = chapter
2230  number
2231  \begingroup
2232  \ifparameter#chapno\or
2233   \doifsomethingelse{\scratchcounterone #chapno }{\scratchcounterone #chapno }{
2234    \scratchcounterone \zerocount}\fi
2235  \ifparameter#startno\or
2236   \doifsomethingelse{\scratchcountertwo #startno}{\scratchcountertwo #startno}{
2237    \scratchcountertwo \zerocount}\fi
2238  \ifparameter#total\or
2239   \doifsomethingelse{\scratchcounterthree#total }{\scratchcounterthree#total }{
2240    \scratchcounterthree\zerocount}\fi
2241  \c_qid_answer=\scratchcountertwo
2242  \dorecurse{\the\scratchcounterthree}{% answer amount
2243   \datasetvariable{Answer_collector}{\the\scratchcounterone-\the\c_qid_answer}{
2244    answer},%
```

```
2245    \advance\c_qid_answer by 1\relax}%
2246    \endgroup}
```

Example 4:

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

```
2247    \newcount\answer@seq@tempa
2248    \newcount\answer@seq@tempb
2249    \tolerant\def\typeanswertable[#rows,#columns]#*[#chapno]#*[#startno]%
2250    {\begingroup
2251    \ifarguments\or\or
2252    \scratchcounter   \zerocount\relax
2253    \scratchcounterone \plusone \relax
2254    \or
2255    \doifsomethingelse{\scratchcounter  #chapno \relax}
2256            {\scratchcounter  #chapno \relax}
2257            {\scratchcounter  \zerocount\relax}
2258    \scratchcounterone \plusone \relax
2259    \or
2260    \doifsomethingelse{\scratchcounter  #chapno \relax}
2261            {\scratchcounter  #chapno \relax}
2262            {\scratchcounter  \zerocount\relax}
2263    \doifsomethingelse{\scratchcounterone #startno\relax}
2264            {\scratchcounterone #startno\relax}
2265            {\scratchcounterone \zerocount\relax}
2266    \or\fi
2267    \answer@seq@tempa=\numexpr\scratchcounterone-1\relax
2268    \answer@seq@tempb=\numexpr\scratchcounterone-1\relax
2269    % \the\answer@seq@tempa == \the\answer@seq@tempb
2270    \bTABLE
2271     \dorecurse{#rows}{
2272      \bTR
2273      \dorecurse{#columns}{\advance\answer@seq@tempa by 1\relax
2274       \expanded{\bTD\tt\datasetvariable{Answer_collector}{\the\scratchcounter-\the
2275        \answer@seq@tempa}{userorder}\eTD}}%
2276      \eTR\bTR
2277      \dorecurse{#columns}{\advance\answer@seq@tempb by 1\relax
2278       \expanded{\bTD\ss\datasetvariable{Answer_collector}{\the\scratchcounter-\the
2279        \answer@seq@tempb}{answer}\eTD}}%
2280      \eTR}%
2281     \eTABLE
2282    \par\endgroup}
```

Example 5:

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

```
2283  \tolerant\def\typeanswertablealt[#rows,#columns]#*[#chapno]#*[#startno]%
2284  {\begingroup\ifarguments 0\or
2285  \scratchcounter    \zerocount\relax
2286  \scratchcounterthree \plusone \relax
2287  \or
2288  \scratchcounter    \zerocount\relax
2289  \scratchcounterthree \plusone \relax
2290  \or
2291  \scratchcounterthree \plusone \relax% for startno
2292  \doifsomethingelse{\scratchcounter   #chapno \relax}
2293          {\scratchcounter   #chapno \relax}
2294          {\scratchcounter   \zerocount\relax}
2295  \or
2296  \doifsomethingelse{\scratchcounter   #chapno \relax}
2297          {\scratchcounter   #chapno \relax}
2298          {\scratchcounter   \zerocount\relax}
2299  \doifsomethingelse{\scratchcounterthree #startno\relax}
2300          {\scratchcounterthree #startno\relax}
2301          {\scratchcounterthree \zerocount\relax}
2302  \or\fi
2303  \scratchcounterone #rows \relax
2304  \scratchcountertwo #columns\relax
2305  \answer@seq@tempa=\numexpr\scratchcounterthree-1\relax
2306  \def\getdata##1{\datasetvariable
2307          {Answer_collector}%
2308          {\the\scratchcounter-\the\answer@seq@tempa}%
2309          {##1}}%
2310  \bTABLE
2311   \dorecurse{\the\scratchcounterone}{\bTR
2312   \dorecurse{\the\scratchcountertwo}{\advance\answer@seq@tempa by 1\relax
2313    \expanded{\bTD\tt\getdata{userorder}\eTD}
2314    \expanded{\bTD\ss\getdata{answer} \eTD}
2315    }
2316   \eTR}
2317  \eTABLE
2318  \par\endgroup}
```

Memoir Ever

21 模式设置 / Mode Setting/ モードセット

```
2319  \definemode[teacher][keep]
2320  \definemode[student][keep]
2321  \definemode[check] [keep]
2322  \startmode[teacher]
2323   \mode_showanswertrue
2324   \mode_showpointtrue
2325   % \setupquestion[showanswer=true,showpoint=true]
2326   % \setupchoice [showanswer=true,showpoint=true]
2327   % \setupcitem [showanswer=true,showpoint=true]
2328   % \setuppitem [showanswer=true,showpoint=true]
2329   % \setupclose [showanswer=true,showpoint=true]
2330   % \setupocitem [showanswer=true,showpoint=true]
2331   % \setupanswer [showanswer=true,showpoint=true,showscript=false]
2332  \stopmode
2333  \startmode[student]
2334   \mode_showanswerfalse
2335   \mode_showpointfalse
2336   % \setupquestion[showanswer=false,showpoint=true]
2337   % \setupchoice [showanswer=false,showpoint=true]
2338   % \setupcitem [showanswer=false,showpoint=true]
2339   % \setuppitem [showanswer=false,showpoint=true]
2340   % \setupclose [showanswer=false,showpoint=true]
2341   % \setupocitem [showanswer=false,showpoint=true]
2342   % \setupanswer [showanswer=false,showpoint=true,showscript=false]
2343  \stopmode
2344  \startmode[check]
2345   \mode_checktrue
2346  \stopmode
2347  \def\showanswer{\mode_showanswertrue\setupanswer[showscript=false]}
2348  \def\hideanswer{\mode_showanswerfalse\setupanswer[showscript=true]}
2349  \let\showpoint\mode_showpointtrue
2350  \let\hidepoint\mode_showanswerfalse
2351  \let\showchekinfo\mode_checktrue
2352  \protect
2353  \stopmodule
2354  \endinput
```