CONTEXT

basicexam

Memoir Ever

商无辛(Shueng Mosan)

2024年十月 24日

Memoir Ever

```
1    \startmodule[basicexam]
2    \unprotect
3    \setupmodule[mode=student]
4    \def\errorparameter#1{\begingroup
5      \startalignment[center]
6      \framed[align={center,lohi},width=max]{
7      \switchtocolor[blue]\tta
8      There is something Wrong happened at \color[red]{\underbar{parameter:#1}}.\\
9      Please check your code.\\
10     }\stopalignment
11     \endgroup}
12   \defineconversion [hiragana]    [あ,い,う,え,お,か,き,く,け,こ,さ,し,す,せ,そ,
13                                    た,ち,つ,て,と,な,に,ぬ,ね,の,は,ひ,ふ,へ,ほ,
14                                    ま,み,む,め,も,や,ゆ,よ,ら,り,る,れ,ろ,わ,ん]
15   \defineconversion [katakana]    [ア,イ,ウ,エ,オ,カ,キ,ク,ケ,コ,サ,シ,ス,セ,ソ,
16                                    タ,チ,ツ,テ,ト,ナ,ニ,ヌ,ネ,ノ,ハ,ヒ,フ,ヘ,ホ,
17                                    マ,ミ,ム,メ,モ,ヤ,ユ,ヨ,ラ,リ,ル,レ,ロ,ワ,ン]
18   \defineconversion [hiragana-iroha][い,ろ,は,に,ほ,へ,と,ち,り,ぬ,る,を,わ,か,よ,
19                                    た,れ,そ,つ,ね,な,ら,む,う,ゐ,の,お,く,や,ま,
20                                    け,ふ,こ,え,て,あ,さ,き,ゆ,め,み,し,ゑ,ひ,も,
21                                    せ,す,ん]
22   \defineconversion [katakana-iroha][イ,ロ,ハ,ニ,ホ,ヘ,ト,チ,リ,ヌ,ル,ヲ,ワ,カ,ヨ,
23                                    タ,レ,ソ,ツ,ネ,ナ,ラ,ム,ウ,ヰ,ノ,オ,ク,ヤ,マ,
24                                    ケ,フ,コ,エ,テ,ア,サ,キ,ユ,メ,ミ,シ,ヱ,ヒ,モ,
25                                    セ,ス,ン]
26   \setuplabeltext [cn] [section={第,部分},subsection={第,节},]

27   \definehead [ego] [section]    % me latin
28   \definehead [isea] [subsection]  % he or she latin
29   \definehead [heu] [subsubsection] % och
30   \setuphead [ego] [sectionsegments=section,numbercommand=]
31   \setupheads [isea] [numbercommand=]
32   \setupheads [ego,isea]
33           [indentnext=yes,align=flushleft,
34           before={\blank[quarterline]},
35           after={\blank[quarterline]},
36           sectionconversionset=examnum]
37   \setuphead [ego]  [style=\ssa]
38   \setuphead [isea] [style=\hwa]
39   \definestructureconversionset[examnum][chinesenumerals][chinesenumerals]
40   \let\setuppapertitle\setgvariables
41   \def\definepapertitle[#1]{%
42    \gdef\currentpapertitle{#1}%
43    \setuppapertitle[\currentpapertitle][
44           n=5,         % 定义需要在试卷标题处需要显示多少元素,
45          typi=secret,     % 同时, 自动定义相应数量的元素命令
46         typii=title,     % 使用typi typii typiii typiv ...
47        typiii=subject,    % 定义每个元素的名称, 同时自动生成相关样式化命令
48        typiv=information,  % X Xstyle Xalign beforeX afterX vspacetypi
49         typv=notice,
50      secretstyle=\ss,
```

```
51            titlestyle=\ssa,
52          subjectstyle=\ssb,
53      informationstyle=\ttx,
54         noticestyle=\rm\it,
55        secretalign=flushleft,
56         titlealign=center,
57       subjectalign=center,
58     informationalign=center,
59        noticealign=flushleft,
60           secret={绝密 ★ 启用前},
61          title={\currentdate[year] 年普通高等学校招生全国统一考试},
62        subject={SubJect},
63      information={总分:150 分，考试时间:120 分钟},
64         notice={注意事项:
65              \startitemize[n,packed,joinedup]
66               \item 答题前，务必将自己的姓名、准考证号填写在%
67                 答题卡规定的位置上。%
68               \item 答选择题时，必须使用 2B 铅笔将答题卡上对%
69                 应题目的答案标号涂黑。如需改动，用橡皮擦%
70                 擦干净后，再选涂其它答案标号。答非选择题%
71                 时，必须使用 0.5 毫米黑色签字笔，将答案%
72                 书写在答题卡规定的位置上。所有题目必须在答%
73                 题卡上作答，在试题卷上答题无效。 %
74               \item 考试结束后，将试题卷和答题卡一并交回。
75               \stopitemize},
76     ]}

77  \def\doifemptyelsex#1#2{\doifelse{#1}{}{#2}{#1}}
78  \def\definevariable[#1][#2]{% #1=namespace #2=element name
79    \doifelse{\getvariable{#1}{#2align}}{}
80         {\setupalign[center]}
81         {\setupalign[\getvariable{#1}{#2align}]}
82     \vskip .1\baselineskip\relax
83    \doifemptyelsex{\getvariable{#1}{before#2}}{}
84    \doifemptyelsex{\getvariable{#1}{#2style}}{}
85    \doifemptyelsex{\getvariable{#1}{#2}}
86          {\framed[color=red]
87          {\ss warning: #2 is empty ! please input #2.
88             or maybe you have some value is undefined
89             because n > 5.}}{}
90    \doifemptyelsex{\getvariable{#1}{after#2}}{}
91     \vskip .1\baselineskip\relax
92  }

93  \def\makepapertitle[#1]{\begingroup%
94   \setupindenting[no]%
95   \vbox{\newcount\num_element \num_element=1%start vbox
96   \dorecurse{\getvariable{#1}{n}}%start recurse
97    {\doifemptyelsex{\getvariable{#1}{vspacetyp\romannumeral\num_element}}{}
98     {\definevariable[#1][\getvariable{#1}{typ\romannumeral\num_element}]}}
99   \advance\num_element by 1\relax}%stop recurse
```

```
100      }%stop vbox
101    \endgroup}
102    \startinterface all
103    \setinterfaceconstant {true} {true}
104    \setinterfaceconstant {false} {false}
105    \stopinterface
106    \installnamespace      {question}
107    \installcommandhandler \????question {question} \????question
108    \installnamespace      {problem}
109    \installcommandhandler \????problem  {problem}  \????problem
110    \installnamespace      {choice}
111    \installcommandhandler \????choice   {choice}   \????choice
112    \installnamespace      {answer}
113    \installcommandhandler \????answer   {answer}   \????answer
114    \installnamespace      {close}
115    \installcommandhandler \????close    {close}    \????close
116    \installnamespace      {pitem}
117    \installcommandhandler \????pitem    {pitem}    \????pitem
118    \installnamespace      {citem}
119    \installcommandhandler \????citem    {citem}    \????citem
120    \installnamespace      {ocitem}
121    \installcommandhandler \????ocitem   {ocitem}   \????ocitem
122    \installnamespace      {fillin}
123    \installcommandhandler \????fillin   {fillin}   \????fillin
124    \installnamespace      {material}
125    \installcommandhandler \????material {material} \????material
126    \installcounterassociation {material}
127    \appendtoks
128      \registermaterialcounter\currentmaterial
129      \definecounter[\currentmaterial]%
130    \to \everydefinematerial
131    \appendtoks
132      \synchronizematerialcounters
133    \to \everysetupmaterial
134    \definematerial [material]
135    \definematerial [number]
136    \definematerial [indicator]
137    \definematerial [indicator_helper]
138    \newif\ifmode_quickcheck \mode_quickcheckfalse
139    \newif\ifmode_check     \mode_checkfalse
140    \newif\ifmode_showanswer \mode_showanswerfalse
141    \newif\ifmode_showpoint  \mode_showpointfalse
142    \newif\ifmode_showscript \mode_showscriptfalse
143    \newif\ifmode_example    \mode_examplefalse
144    \newif\ifenv_question    \env_questionfalse
145    \newif\ifenv_problem     \env_problemfalse
146    \newif\ifenv_choice      \env_choicefalse
147    \newif\ifenv_material    \env_materialfalse
148    \newif\ifenv_close       \env_closefalse
149    \newif\ifenv_answer      \env_answerfalse
150    \newif\ifenv_toplevel    \env_topleveltrue
```

```
151  \newif\ifenv_botlevel    \env_botlevelfalse
152  \newif\ifchoice_check    \choice_checkfalse
153  \newif\ifcontinue_counter \continue_counterfalse
154  \newif\ifclose_counter_reset\close_counter_resetfalse

155  \newdimen\width_cit
156  \newdimen\width_cit_max
157  \newdimen\choice_max_compared_width%
158  \newdimen\width_max_with_label
159  \newdimen\label_width
160  \newcount\totalchoicenumber%
161  \newcount\currentchoicenumber%
162  \newcount\totalpitemnumber%
163  \newcount\currentpitemnumber%
164  \newcount\cnt_step_point% for point calculate
165  \newcount\cnt_step_point_temp%
166  \newcount\current_total_choice_number% 當前選項 ABCD 總計數
167  \newcount\current_available_columns%可排版的最多列數
168  \newcount\cnt_closetest
169  \newcount\cnt_closetest_tempa
170  \newcount\tempa\newcount\tempb
171  \newcount\cnt_example_question

172  \definecounter[Unicode][way=bychapter]
173  \definecounter[Unicode_toplevel]     % for level 1 : question or problem
174  \definecounter[Unicode_midlevel]     % for level 2 : problem or level 1
175  \definecounter[Unicode_botlevel]     % for level 3 : only for level 2
176  \definecounter[totalchoicenumber]    % get total number of choice
177  \definecounter[currentchoicenumber]  % get order number of choice
178  \definecounter[strc_close_counter]   % 為 close 环境可以继续 question 序号而设置
179  \def\EQusetionID{E-\somenamedheadnumber{chapter}{current}-\number\cnt_example_question}
180  \def\QusetionID{\ifmode_example\EQusetionID\else%
181          \somenamedheadnumber{chapter}{current}-\rawcountervalue[Unicode]\fi}
182  \def\increaseEQusetionID{\advance\cnt_example_question by 1\relax}
183  \def\decreaseEQusetionID{\advance\cnt_example_question by -1\relax}
184  \def\increaseQusetionID{\ifmode_example\increaseEQusetionID\else%
185          \incrementcounter[Unicode]\fi}
186  \def\decreaseQusetionID{\ifmode_example\decreaseEQusetionID\else%
187          \decrementcounter[Unicode]\fi}
188  \def\ProblemID{\namedheadnumber{chapter}-\rawcountervalue[Unicode_toplevel]}

189  \definedataset[Answer_collector]
190  \definedataset[Problem_collector]
191  \definedataset[Choice_collector]

192  \defineitemgroup  [env_problem] %
193  \setupitemgroup  [env_problem] [each] [n,packed,joinedup,nowhite]
194  \defineitemgroup  [env_question] %
195  \setupitemgroup  [env_question] [each] [n,packed,joinedup,nowhite,continue]
196  \defineitemgroup  [env_choice] %
197  \setupitemgroup  [env_choice] [each] [A,packed,joinedup,nowhite]
198  \definetextbackground[env_answer]
```

```
199    \definebar      [fillin_text]
200    \defineoverlay  [normalframeOL]
201            [\useMPgraphic{normalframeMP}]
202    \startuseMPgraphic{normalframeMP}
203     draw unitsquare xyscaled (\overlaywidth, \overlayheight)
204    \stopuseMPgraphic
205    \startuseMPgraphic{rules:under:wave}
206      vardef lsin primary x =
207        lua("mp.print(math.sin(" & decimal x & "))")
208      enddef ;
209      draw function(1, "x", "lsin(1.2*x)", 0, RuleWidth, .1pt)
210        shifted (0,RuleFactor*RuleOffset+RuleDepth)
211        withpen pencircle scaled RuleThickness
212        withcolor RuleColor ;
213      setbounds currentpicture to unitsquare xysized(RuleWidth,RuleHeight) ;
214    \stopuseMPgraphic
215    \def\choice_availablecolumns{\datasetvariable{Choice_collector}{\QusetionID}{availablecolumns}}
216    \def\choice_itemmaxwidth{\datasetvariable{Choice_collector}{\QusetionID}{itemmaxwidth}}
217    \def\choice_totalchoicenumber{\datasetvariable{Choice_collector}{\QusetionID}{totalchoicenumber}}
218    \def\choice_answer{\datasetvariable{Choice_collector}{\QusetionID}{answer}}
219    \def\choice_answerstatus{\datasetvariable{Choice_collector}{\QusetionID}{answerstatus}}
220    \def\pitem_totalnumber{\datasetvariable{Problem_collector}{\ProblemID}{totalpitemnumber}}
221    \def\pitem_totalpoint{\datasetvariable{Problem_collector}{\ProblemID}{totalpitempoint}}
222    \def\answer_id{\datasetvariable{Answer_collector}{\QusetionID}{id}}
223    \def\answer_envid{\datasetvariable{Answer_collector}{\QusetionID}{envid}}
224    \def\answer_order{\datasetvariable{Answer_collector}{\QusetionID}{order}}
225    \def\answer_userorder{\datasetvariable{Answer_collector}{\QusetionID}{userorder}}
226    \def\answer_answer{\ifmode_example You're in EXAMPLE MODE!\else\datasetvariable{Answer_collector}{
227     \QusetionID}{answer}\fi}
228    \def\answer_point{\datasetvariable{Answer_collector}{\QusetionID}{point}}
229    \def\answer_totalnumber{\datasetvariable{Answer_collector}{\QusetionID}{totalnumber}}

230    \def\show_check_info{
231     \ifmode_quickcheck
232      \par\framed[width=\textwidth,align=flushleft]%
233      {\answer_id\ ** \answer_answer\ ** \mode_status}\par
234     \else%
235       \ifmode_check\show_check_infos\else\fi%
236     \fi}

237    \def\show_check_infos{\begingroup\par\leftskip 0pt\relax\noindent%
238     \setupinterlinespace[line=2ex]%
239     \framed[align=flushleft]{\language[en]%
240      \hfil \ttx {\bf NOTICE: MODE CHECK IS ON}     \hfil\par\ifmode_example
241      \hfil   {\bf NOTICE: MODE EXAMPLE IS ON}     \hfil\par\fi
242      \hfil \ttx Notice,{\bf Cinfos} only show choice env information \hfil\par
243      \hfil   {\bf CU} means 'current' , if CUuserorder ≠ CUorder, \hfil\par
244      \hfil   It maybe because START parameter is enabled.     \hfil\par\ifmode_example
245      \hfil   Notice,{\bf MODE EXAMPLE} wont provide data infos  \hfil\par\fi
246     \setuptabulate[bodyfont={tt,9pt}]
247     \starttabulate[|rp(.2\textwidth)|lp(.25\textwidth)|rp(.2\textwidth)|lp(.25\textwidth)|lwlB|]
```

```
248      \NC {\bf Name} \NC {\bf Content}     \NC  {\bf Cinfos} \NC {\bf Content}       \NC\NR\HL
249      \NC CUitemgroup\NC \currentitemgroup    \NC   CUQusetionID \NC \QusetionID        \NC\NR
250      \NC CUparen  \NC \currentparentitemgroup \NC   CUCmaxwidth \NC \choice_itemmaxwidth    \NC\NR
251      \NC CUorder  \NC \currentorder      \NC   totalCnumber \NC \choice_totalchoicenumber \NC\NR
252      \NC CUuserorder\NC \currentuserorder    \NC   Cavailable \NC \choice_availablecolumns \NC\NR
253      \NC level.check\NC \level_status      \NC   Canswer   \NC \choice_answer        \NC\NR
254      \NC answer   \NC \answer_answer      \NC   Canswerstatus \NC \choice_answerstatus    \NC\NR\HL
255      \NC mode.status\NC \mode_status       \NC   CUProblemID \NC \ProblemID         \NC\NR
256      \NC  \NC  \NC   totalPnumber \NC \pitem_totalnumber     \NC\NR
257      \NC  \NC  \NC   totalPpoint  \NC \pitem_totalpoint      \NC\NR
258    \stoptabulate}
259    \par\endgroup}

260  \def\dimtonum #1{\number\numexpr \dimexpr #1\relax*635/65536\relax }
261  \newcount\cnt_floor
262  \def\floor#1{\floorhelper#1.\relax}
263  \def\floorhelper#1.#2\relax{\ifx\relax#2\relax#1%
264    \else\if.#2#1\else\floorhelphelper{#1}#2\fi\fi}
265  \def\floorhelphelper#1#2.{\ifnum#2>0%
266    \floorhelphelphelper#1\relax\relax\relax\else#1\fi}
267  \def\floorhelphelphelper#1#2\relax{%
268    \if-#1\relax-\cnt_floor=0#2\relax%
269    \advance\cnt_floor by 1\relax%
270    \number\cnt_floor\relax%
271    \else\cnt_floor=0#1#2\relax%
272    \number\cnt_floor\relax\fi%
273  }
274  \directlua{MultiAnswerCollector = {}}
275  \def\collect#1{%if want show collect,show #1
276    \directlua{table.insert(MultiAnswerCollector, [[#1]])}}
277  \def\callcollection{\directlua{
278    tex.sprint(table.concat(MultiAnswerCollector, " "))
279    MultiAnswerCollector = {}
280  }}

281  \newcount\c_example_toggle
282  \def\example_toggle[#1]%
283    {\doif{\csname #1parameter\endcsname{example}}{true}%
284       {\mode_exampletrue\global\c_example_toggle=999\relax}}

285  \def\level_status{\ifenv_toplevel <env_toplevel>\else%
286         \ifenv_botlevel <env_botlevel>\else
287             <env_midlevel>\fi\fi}

288  \def\mode_status{\ifmode_check   <check>\fi
289         \ifmode_showanswer<showanswer>\fi
290         \ifmode_showpoint <showpoint>\fi
291         \ifmode_example  <example>\fi}

292  \def\currentorder{% get unique order ( no chapter number )
293    \rawcountervalue[Unicode_toplevel]%-\rawcountervalue[Unicode_midlevel]%
294    \ifnum\rawcountervalue[Unicode_botlevel]=0\relax\else%
```

```
295        (\rawcountervalue[Unicode_botlevel])\fi%
296    }
297    \newcount\parentitemnumber
298    \def\set_currentuserorder[#1]{% set order that user setted
299      \ifcsname #1order\endcsname\else%
300      \expandafter\newcount\csname #1order\endcsname\fi%
301      \ifenv_toplevel\csname #1order\endcsname=\currentitemnumber\relax%
302      \else      \csname #1order\endcsname=\parentitemnumber \relax%
303      \fi}

304    \def\current_user_order#1{% get user order which can by changed by START
305      \number\csname #1order\endcsname%
306      \ifnum\rawcountervalue[Unicode_botlevel]=0\relax\else%
307      (\rawcountervalue[Unicode_botlevel])\fi}

308    \def\set_count_envlevel[#1][#2]{%
309      \setcounter[Unicode_midlevel][0]%
310      \setcounter[Unicode_botlevel][0]%
311      \doifincsnameelse{#1}{\currentitemgroup}%
312            {\env_topleveltrue{}}%
313            {\env_toplevelfalse{}}%
314      \ifenv_toplevel\incrementcounter[Unicode_toplevel]%
315          \else\incrementcounter[Unicode_midlevel]\fi%
316      \set_currentuserorder[#2]%
317      \edef\currentuserorder{\current_user_order{#2}}%
318      \show_check_info%
319    }

320    \def\set_count_itemlevel[#1][#2]{%
321      \doifincsnameelse{#1}{\currentitemgroup}%
322            {\env_botleveltrue{}}%
323            {\env_botlevelfalse{}}%
324      \ifenv_botlevel\incrementcounter[Unicode_botlevel]%
325          \else\incrementcounter[Unicode_midlevel]\fi%
326      \set_currentuserorder[#2]%
327      \edef\currentuserorder{\current_user_order{#2}}%
328      \show_check_info%
329    }

330    \def\dataset_collector[#1][#2]{%#1 where answer from %% #2 user id for the env
331      \setdataset [Answer_collector][\QusetionID]%收集答案並在未來展開
332            [id={\QusetionID},%
333            envid={\currentitemgroup},%
334            order={\number\currentorder},%
335            userorder={\currentuserorder},%
336            answer={\pass_parameter_answer},
337            point={\csname #1parameter\endcsname{point}},
338            totalnumber={\the\totalpitemnumber},]}
339            % totalnumber 需要修改為根據環境改變所收集的數量信息

340    \def\pass_parameter_answer{%
341      \ifenv_choice\get_choice_answer\else%
```

```
342    \ifenv_problem\check_env_answer[pitem]\else%
343    \check_env_answer[ocitem]\fi\fi}

344    \def\check_env_answer[#1]{
345    \doifelsesomething{\csname #1parameter\endcsname{answer}}{}{}{%
346      There is no \color[red]{\tta #1 answer} value.
347     }{\csname #1parameter\endcsname{answer}}%
348    }

349    \def\get_choice_answer_num#1{%
350      \doifsomethingelse%
351      {\datasetvariable{Choice_collector}{#1}{answer}}%
352      {\datasetvariable{Choice_collector}{#1}{answer}}%
353      {There is no \color[red]{\tta Choice answer} value.}}
354    \def\get_choice_answer{\increaseQusetionID%
355    \get_choice_answer_num{\QusetionID}%
356    \decrementcounter[Unicode]}
357    \def\get_fillin_answer{%
358    \datasetvariable{Fillin_collector}{\QusetionID}{answer}%
359    }

360    \def\get_pitem_point{%
361    \def\ProblemID{\namedheadnumber{chapter}-\nextcountervalue[Unicode_toplevel]}%
362    \datasetvariable{Problem_collector}{\ProblemID}{totalpitempoint}}

363    \let\getanswerfromchoice\get_choice_answer
364    \let\getanswerfromfillin\get_fillin_answer
365    \let\getpointfrompitem\get_pitem_point
366    \let\getpointfromproblem\get_pitem_point

367    \def\getanswerforanswer{% used for answer env to auto get answer
368     \datasetvariable{Answer_collector}{\QusetionID}{answer}}
369    \def\getpointforanswer{% used for answer env to auto get answer
370     \datasetvariable{Answer_collector}{\QusetionID}{point}}

371    \def\check_choice_answerstatus{
372      \ifchoice_check checked!%
373      \else%
374      \color[red]{unchecked!}\\
375      please set the answer manually
376      by add \[*\] parameter to {\tt citem} command.\\
377     \fi}

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

379    \def\show_point_or_answer[#1][#2]{%#1 parameter %#2 modename
380      \processaction[\csname #1parameter\endcsname{show#2}][%
381        true=>\csname mode_show#2true\endcsname,
382        false=>\csname mode_show#2false\endcsname,]%
383      \csname ifmode_show#2\endcsname%
384        \begingroup%
385        \csname #1parameter\endcsname{#2style}%
386        \switchtocolor[\csname #1parameter\endcsname{#2color}]%
```

```
387        \paren {\csname #1parameter\endcsname{#2prelabel}% like=>answer : blabla
388           \csname #1parameter\endcsname{#2}% like=> 1 points
389           \csname #1parameter\endcsname{#2label}}%
390        \endgroup%
391     \fi}

392 \defineconversion[tnum][\addff{tabularnumbers}]
393 \def\inherit_itemgroup_option[#1]{
394   \setupcounter [itemgroup:env_#1]
395          [ way=\csname #1parameter\endcsname\c!way]
396   \setupitemgroup[env_#1]
397          [ left=\csname #1parameter\endcsname\c!left,
398           right=\csname #1parameter\endcsname\c!right,
399         stopper=\csname #1parameter\endcsname\c!stopper,
400        distance=\csname #1parameter\endcsname\c!distance,
401          before=\csname #1parameter\endcsname\c!before,
402           after=\csname #1parameter\endcsname\c!after,
403           width=\csname #1parameter\endcsname\c!width,
404           align=\csname #1parameter\endcsname\c!align,
405       indenting=\csname #1parameter\endcsname\c!indenting,
406        symalign=\csname #1parameter\endcsname\c!symalign,
407          symbol=\csname #1parameter\endcsname\c!symbol,
408       itemalign=\csname #1parameter\endcsname\c!itemalign,
409          option=\csname #1parameter\endcsname\c!option,
410           style=\csname #1parameter\endcsname\c!style,
411           color=\csname #1parameter\endcsname\c!color,
412 numberconversion=\csname #1parameter\endcsname\c!numberconversion,
413             ]%
414  }
```

Memoir Ever

1　设置 problem 环境

```
415    \setupproblem [left={}, %%%%% follow is itemize option
416            right={},
417            stopper={.~},
418            distance=.5em,
419            %before=,
420            %after=,
421            width=.5em,
422            %align=,
423            indenting=no,
424            %symalign=,
425            %symbol=,
426            %itemalign=,
427            option={packed,joinedup,nowhite},
428            way=bysection,
429            numberconversion=tnum,]
430    \inherit_itemgroup_option[problem]
```

problem 只继承了部分 itemgroup 的键值,并没有新的键值设定在当前(v20241023)中已经删去了设置答案和分值的设置。因为,problem 环境下一般有许多 pitem,每个题目都可能有自己的分值和答案。因此,直接设置 pitem 即可。

```
431    \tolerant\protected\def\startproblem[#1]{%
432    \ifenv_question\increaseQusetionID%如果 problem 作为子环境存在时
433    \parentitemnumber=\currentitemnumber\relax% 直接获取 question 的 ID
434    \set_count_envlevel[env_problem:2][question]%
435    \decreaseQusetionID\fi%
436    \begingroup\env_problemtrue%
437    \iffirstargument\setupproblem[#1]\fi%
438    \startitemgroup [env_problem]%
439            [\problemparameter{numberconversion},#1]%
440            [#1]%
441    \currentpitemnumber=0\relax%
442    \cnt_step_point=0\relax%
443    \cnt_step_point_temp=0\relax%
444    \ifenv_toplevel\set_count_envlevel[env_problem:1][problem]\fi}

445    \def\stopproblem{
446      \ifnum \totalpitemnumber > \currentpitemnumber%
447          \totalpitemnumber = \totalpitemnumber%
448      \else \totalpitemnumber = \numexpr\currentpitemnumber-1\relax%
449      \fi%遞歸出總序號
450      \setdataset [Problem_collector][\ProblemID]%收集信息並在未來展開
451            [totalpitemnumber={\the\totalpitemnumber},
452             totalpitempoint={\number\cnt_step_point},]%
453      \stopitemgroup\endgroup}
```

Memoir Ever

2　设置 question 环境

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

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

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。

```
454  \setupquestion [%showpoint=false,
455          %point=,
456          pointstyle=\ttx,
457          %pointcolor=,
458          %pointprelabel=,
459          pointlabel={分},
460          %showanswer=false,
461          %answer=,
462          %answerlabel=,
463          %answerprelabel=,
464          answerstyle=\ss,
465          answercolor=red,
466          %example=,
467          left={}, %%%%% follow is itemize option
468          right={},
469          stopper={.~},
470          distance=0em,
471          option={packed,joinedup,nowhite},
472          %before=,
473          %after=,
474          width=1.5em,
475          %align=,
476          indenting=no,
477          %symalign=,
478          %symbol=,
479          %itemalign=,
480          way=bychapter,%wont work if continue on
481          numberconversion=tnum,]
482  \inherit_itemgroup_option[question]

483  \tolerant\protected\def\startquestion[#1]{\begingroup%
484    \env_questiontrue%
485    \global\c_example_toggle=0\relax
486    \iffirstargument\setupquestion[#1]\fi%
487    \example_toggle[question]%
488    \ifempty{\questionparameter{start}}%避免 continue 和 start 属性冲突
489    \startitemgroup[env_question]%
490         [\questionparameter{numberconversion},continue,#1]%
```

```
491              [#1]%
492      \else\startitemgroup[env_question]%
493                [\questionparameter{numberconversion},#1]%
494                [#1]%
495      \fi\item[\questionparameter\c!reference]%
496      \show_point_or_answer[question][point]%
497      \show_point_or_answer[question][answer]%
498      \increaseQusetionID%
499      \parentitemnumber=\currentitemnumber\relax
500      \set_count_envlevel[env_question:1][question]%
501      \setcounter    [strc_close_counter][\currentitemnumber]%
502      \savecounter   [strc_close_counter]%
503      \decreaseQusetionID%
504      \unskip}

505  \def\stopquestion{\stopitemgroup\endgroup%
506          \ifnum\c_example_toggle=999\relax%
507          \resetcounter [itemgroup:env_question]%
508          \fi}
```

3 设置 choice 环境

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。因为 choice 环境的特殊性,point 键值是通过 question 环境来显示。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。

```
509  \setupchoice [answer=\get_choice_answer,
510        answerstyle=\ss\tf,
511        answercolor=red,
512        left={}, %%%%% follow is itemize option
513        right={},
514        stopper={.~},
515        distance=.5em,
516        option={packed,joinedup,nowhite},
517        %before=,
518        %after=,
519        width=1em,
520        maxiwidth=.8\textwidth,
521        start=1,
522        %align=,
523        indenting=no,
524        %symalign=,
525        %symbol=,
526        %itemalign=,
527        way=bysection,
528        numberconversion=A,]
529  \inherit_itemgroup_option[choice]

530  \tolerant\protected\def\startchoice[#1]{\begingroup%
531    \env_choicetrue%
532    \increaseQusetionID%
533    \doifelsesomething{\datasetvariable{Choice_collector}%
534          {\QusetionID}{totalchoicenumber}}% arg_1
535     {\scratchcounter\datasetvariable{Choice_collector}%
536          {\QusetionID}{totalchoicenumber}}% arg_2
537          {\scratchcounter\zerocount}% arg_3
538    \current_total_choice_number=\number\scratchcounter\relax%
539    \doifelsesomething{\datasetvariable{Choice_collector}
540          {\QusetionID}{availablecolumns}}%
541     {\scratchcounter\datasetvariable{Choice_collector}
542          {\QusetionID}{availablecolumns}}%
543          {\scratchcounter\zerocount}%
544    \current_available_columns=\number\scratchcounter\relax%
545    \startluacode
546  tbl_num_temp = {"one","two","three","four",
547          "five","six","senven","eight","nine"}
548    local  tbl_cit_count    = tex.count['current_total_choice_number']
549    local  available_columns = tex.count['current_available_columns']
550        available_columns_arg = ""
551    if  (tbl_cit_count == 3) and (available_columns < tbl_cit_count)
```

```
552    then  available_columns_arg = "one"
553    elseif (tbl_cit_count > 1) and (available_columns >= tbl_cit_count)
554    then  available_columns_arg = "horizontal," .. tbl_num_temp[tbl_cit_count]
555    elseif (tbl_cit_count >= 1) and (available_columns <=      1 )
556    then  available_columns_arg = "one"
557    else  available_columns_arg = "horizontal,two"
558    end
559    \stopluacode
560    \iffirstargument\setupchoice[#1]\fi%
561    \startitemgroup[env_choice]%
562            [\choiceparameter{numberconversion},#1,%
563             \ctxlua{context(available_columns_arg,"")},]%
564            [#1]%
565    \processaction[\choiceparameter{showanswer}][%
566        true=>\mode_showanswertrue,
567       false=>\mode_showanswerfalse,]%
568    \totalchoicenumber=0\relax%
569    \currentchoicenumber=0\relax%
570    \show_check_info
571    \setcounter [totalchoicenumber] [0]% recalculator when startitemgroup
572    \setcounter [currentchoicenumber] [0]% recalculator when startitemgroup
573     }

574    \def\stopchoice{%
575    \width_max_with_label = \dimexpr\width_cit_max + %
576               \d_strc_itemgroups_list_width\relax%
577    \currentchoicenumber=\numexpr\currentchoicenumber-1\relax%
578    \ifnum \totalchoicenumber > \currentchoicenumber%
579        \totalchoicenumber = \totalchoicenumber%
580    \else \totalchoicenumber = \currentchoicenumber%
581    \fi%遞歸出總序號
582    \choice_max_compared_width=\choiceparameter{maxiwidth}\relax%
583    \tempa    =\dimtonum{\choice_max_compared_width}\relax%
584    \tempb    =\dimtonum{\the\width_max_with_label}\relax%
585    \ifdefined \currentuserorder\else%
586        \doifincsnameelse{env_choice:2}{\currentitemgroup}%
587          {}{\set_count_envlevel[env_choice:1][choice]}\fi%
588    \setdataset [Choice_collector][\QusetionID][%收集選項信息,傳遞給下面的總收集處
589            id={\QusetionID},%
590            envid={\currentitemgroup},%
591            order={\number\currentorder},%
592            userorder={\currentuserorder},%
593            availablecolumns={\number\numexpr \tempa / \tempb\relax},
594            itemmaxwidth={\the\width_cit_max},
595            totalchoicenumber={\number\totalchoicenumber},
596            answerstatus={\check_choice_answerstatus},
597            answer={\callcollection},]%
598    \dataset_collector[question][choice]%
599    \stopitemgroup\endgroup}

600    \setuptextbackground[env_answer]
```

```
601        [location=paragraph,width=local,
602        leftoffset=1ex,rightoffset=1ex,
603        %topoffset=.5ex,bottomoffset=.5ex,
604        before={\leftskip=0pt\startnarrower
605            \blank[force,halfline]},
606        after={\blank[halfline]\stopnarrower},
607        background=\answerparameter\c!background,
608        backgroundcolor=\answerparameter\c!backgroundcolor,
609        corner=\answerparameter\c!corner,
610        frame=\answerparameter\c!frame,
611        framecolor=\answerparameter\c!framecolor,
612        rulethickness=\answerparameter\c!rulethickness,
613        ]
```

Memoir Ever

4 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。该环境具有 answer 和 point 的全部键值。同时,通过 label labelstyle labelcolor 来设置答案环境的标签。

```
614  \setupanswer[showanswer=true,
615        showpoint=true,
616        answer=\getanswerforanswer,
617        point=\getpointforanswer,
618        pointlabel={分},
619        pointstyle=\answerparameter{style},
620        pointcolor=\answerparameter{color},
621        answerstyle=\answerparameter{style},
622        answercolor=\answerparameter{color},
623        style=\ss,
624        labelstyle=\ss,
625        label={答案 : },
626        %before=,
627        %after=,
628        afteranswer={\par},
629        showscript=false,
630        %scriptcontent={},
631        %scriptbefore={},
632        %scriptafter={},
633        background=normalframeOL,
634        %backgroundcolor=,
635        %corner=,
636        %frame=,
637        %framecolor=,
638        %rulethickness=,
639        ]

640  \tolerant\protected\def\startanswer[#1]#:#2\stopanswer{\begingroup%
641    \env_answertrue%
642    \iffirstargument\setupanswer[#1]\fi%
643    \doif{\answerparameter{showscript}}{true}{\mode_showscripttrue}%
644    \answerparameter{before}%
645    \ifmode_showanswer%
646      \startenv_answer%
647        {\answerparameter{labelstyle}%
648         \switchtocolor[\answerparameter{labelcolor}]%
649         \answerparameter{label}}%
650      \show_point_or_answer[answer][point]%
651      \show_point_or_answer[answer][answer]%
652      \useanswerstyleandcolor\c!style\c!color%
653      \answerparameter{afteranswer}#2
654      \stopenv_answer%
655    \else%
656    \ifmode_showscript%
657      \startenv_answer%
```

```
658        \answerparameter{scriptbefore}%
659         \answerparameter{scriptcontent}%
660        \answerparameter{scriptafter}%
661      \stopenv_answer%
662    \else\fi%
663    \fi%
664    \answerparameter{after}%
665     \endgroup}
```

5 设置 pitem,citem 命令

仅具有 answer point 和 reference 键值。

```
666    \setuppitem  [%showpoint=false,
667            point=0,% 必須有預設值，否則出現計數器錯誤(missing number)
668            pointstyle=\ttx,
669            %pointcolor=,
670            pointlabel={分},
671            %showanswer=false,
672            %answer=,
673            answerstyle=\ss,
674            answercolor=red,
675            %reference=,
676            ]
677    \tolerant\protected\def\startpitem[#1]{\begingroup%
678    \increaseQusetionID%
679    \iffirstargument\setuppitem[#1]\fi%
680     \startitem[\pitemparameter{reference}]%%
681      \ifnum\currentpitemnumber=0\currentpitemnumber=1\relax\fi%
682       \show_point_or_answer[pitem][point]%
683       \show_point_or_answer[pitem][answer]%
684     \set_count_itemlevel[env_problem:2][pitem]%
685     \global\cnt_step_point_temp=\pitemparameter{point}\relax%
686     \ifnum\cnt_step_point=0%
687     \global\cnt_step_point=\cnt_step_point_temp\relax%
688    \else%
689     \global\cnt_step_point=\numexpr\cnt_step_point+\cnt_step_point_temp\relax%
690    \fi}

691    \def\stoppitem{%
692    \dataset_collector[pitem][pitem]%
693    \stopitem\global\advance\currentpitemnumber by 1\relax\endgroup}
```

choice 只具有 showanswer 和 [*](用于标记正确答案) 两个设置

```
694    \def\correct_choice#1#2{%
695     \ifmode_showanswer%
696      \doif{#1}{*}{%
697       {\doifelse{\choiceparameter{answerstyle}}{}%
698           {\choiceparameter{answerstyle}}%
699           {\questionparameter{answerstyle}}%
700       \doifelse{\choiceparameter{answercolor}}{}{}%
701           {\switchtocolor[\choiceparameter{answercolor}]}%
702           {\switchtocolor[\questionparameter{answercolor}]}%
703       #2}}%%correct choice
704     \else#2\fi}
705    \def\get_citem_text[#1]{\setbox0=\hbox{#1}%
706     \width_cit = \the\wd0\relax%relax is neccessary
707     \ifdim \width_cit_max > \width_cit%
708        \width_cit_max = \width_cit_max%
709     \else \width_cit_max = \width_cit%
```

```
710    \fi}%%%% 遞歸計算出最大寬度

711  \tolerant\protected\def\startcitem[#1]#*[#2]#:#3\stopcitem{% #1 correct answer
712    \ifsecondargument\setupcitem[#2]\fi%  #2 options
713    \get_citem_text[#3]%          #3 choice content
714    \processaction[\choiceparameter{showanswer}][%
715      true=>\mode_showanswertrue,
716      false=>\mode_showanswerfalse,]%
717    \doif{#1}{*}{\choice_checktrue}%
718    \ifconditional\c_strc_itemgroups_horizontal% mode_horizontal
719      \ifnum\currentchoicenumber<1%
720      \currentchoicenumber = 1\relax%
721      \else\relax\fi%
722      \setcounter[currentchoicenumber][\currentchoicenumber]%
723      \setcounter[totalchoicenumber][\currentchoicenumber]%
724      \doif{#1}{*}{\savecounter[currentchoicenumber]}%
725      %if new collect command work well, savecounter can be deleted
726      \doif{#1}{*}{\collect{\convertnumber%
727            {\choiceparameter{numberconversion}}%
728            {\currentchoicenumber}}}%
729    \else%
730      \ifnum\currentchoicenumber<1\relax%
731      \currentchoicenumber=1\relax%
732      \else\relax\fi%
733    \fi%
734    \startitem[\citemparameter\c!reference]
735    \ifconditional\c_strc_itemgroups_horizontal% mode_horizontal
736    \doifelse{#1}{*}{\correct_choice{#1}{#3}}{#3}%
737    \else%
738      \setcounter[currentchoicenumber][\currentchoicenumber]%
739      \setcounter[totalchoicenumber][\currentchoicenumber]%
740      \doifelse{#1}{*}{\correct_choice{#1}%
741      {#3\savecounter[currentchoicenumber]}}%
742      {#3%if new collect command work well, savecounter can be deleted
743      \doif{#1}{*}{\collect{\convertnumber%
744            {\choiceparameter{numberconversion}}%
745            {\currentchoicenumber}}}%
746    \fi%
747    \stopitem%
748    \advance\currentchoicenumber by 1\relax%
749  }
```

6   定义同义命令

```
750    \def\pitem{\dosingleempty\pitem_indeed}
751    \def\pitem_indeed[#1]#2{
752      \startpitem[#1]{#2}\stoppitem
753    }
754    \def\citem{\dosingleempty\citem_indeed}
755    \def\citem_indeed[#1]#2{%
756      \startcitem[#1]{#2}\stopcitem%
757    }
```

谨慎使用下面的 fragilecitem,他并不安全。很有可能导致错误

```
758    \bgroup
759    \obeylines
760    \gdef\xcitem{\bgroup\obeylines\dosingleempty\doxcitem}%
761    \gdef\doxcitem[#1]#2
762      {\egroup%
763      \doifsomethingelse{#1}%
764      {\startcitem[#1]#2\stopcitem}%
765      {}%
766      \startcitem #2\stopcitem}%
767    \egroup

768    \let\fragilecitem\xcitem
```

Memoir Ever

7 設置 fillin 命令

該命令建議在 pitem 環境內進行使用。同時,為 pitem 的 answer 鍵設置 \getanswerfromfillin,這樣 pitem 命令就可以自動獲取內部的 fillin 命令的答案當然,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; 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

```
769  \definedataset[Fillin_collector]
770  \setupbar[fillin_text]
771      [ rulethickness=\fillinparameter{rulethickness},
772      foregroundcolor=\fillinparameter{foregroundcolor},
773       foregroundstyle=\fillinparameter{foregroundstyle},
774          continue=\fillinparameter{continue},
775            unit=\fillinparameter{unit},
776           order=\fillinparameter{order},
777          method=\fillinparameter{method},
778            dy=\fillinparameter{dy},
779           max=\fillinparameter{max},
780          width=\fillinparameter{width},
781           left=\fillinparameter{left},
782          right=\fillinparameter{right},
783          repeat=\fillinparameter{repeat},
784          color=\fillinparameter{color},
785          offset=\fillinparameter{offset},
786          empty=\fillinparameter{empty},
787            mp=\fillinparameter{mp}]
788  \setupfillin[%foregroundcolor=,
789          %before=,after=,
790          %left=,right=,
791          %repeat=,mp=
792           rule=fillin_text,% 引用 bar 命令
793           empty=none,
794           continue=yes,
795           unit=em,
796           order=foreground,
797           method=0,
798           color=gray,
799           width=4em,
800           n=10,
801           dy=-0.4,
802           max=3,
803           offset=-.1,
804           rulethickness=.05,
805           foregroundstyle=\ss,]

806  \def\showanswer_for_fillin{%
807    \ifmode_showanswer\setupfillin[empty=none]%
```

```
808    \else\setupfillin[empty=yes]\fi}
809  \newcount\c_fillin_number

810  \tolerant\protected\def\fillin[#1]#:#2{\begingroup%
811    \iffirstargument\setupfillin[#1]\fi%
812    \removeunwantedspaces%
813    \global\advance\c_fillin_number by 1\relax
814    \edef\p_n{\fillinparameter\c!n}%
815    \edef\p_empty{\fillinparameter\c!empty}%
816    \edef\p_number{\number\c_fillin_number}%
817    \edef\currentbar{\fillinparameter\c!rule}%
818    \showanswer_for_fillin%
819    \fillinparameter\c!before\fillinparameter\c!left%
820    \ifx\p_n\wildcardsymbol
821      \donefalse
822      \ifx\p_empty\v!yes
823        \donetrue
824      \else\ifx\p_empty\v!number
825        \donetrue
826      \else\ifx\p_empty\v!none
827        \donetrue
828      \fi\fi\fi
829      \ifdone
830        \setupbar[\currentbar][\c!empty=\v!yes]%
831      \fi%
832      \inlinebar[\currentbar]\bgroup
833        \wordboundary#2%
834        \ifx\p_empty\v!yes
835        \else\ifx\p_empty\v!number
836        \else\ifx\p_empty\v!none
837        \fi\fi\fi
838      \egroup
839    \else
840      \inlinebar[\currentbar]\bgroup
841        \wordboundary
842      \scratchcounter\numexpr\p_n\relax
843      \ifx\p_empty\v!yes
844        \interwordspacesbefore\scratchcounter
845        \interwordspacesafter\scratchcounter
846      \else\ifx\p_empty\v!number
847        \interwordspacesbefore\scratchcounter
848        \zwnj\runninghbox{\resetbar\p_number}\zwnj
849        \interwordspacesafter\scratchcounter
850      \else\ifx\p_empty\v!none
851        \scratchcounter\numexpr\p_n/\plustwo\relax
852        \interwordspacesbefore\scratchcounter
853        \zwnj\runninghbox{\resetbar{#2}}\zwnj
854        \interwordspacesafter\scratchcounter
855      \else
856        #2%
857      \fi\fi\fi%
```

```
858    \egroup%
859    \fi%
860    \setdataset[Fillin_collector][\QusetionID][answer={#2}]%
861    \fillinparameter\c!right\fillinparameter\c!after%
862    \endgroup}
```

Memoir Ever

8 設置 material 環境

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 來控制環境前后的垂直距离

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

```
863  \setupmaterial [\c!align=center,
864        %\c!color=,
865        %\c!style=,
866        \c!spacebefore=1em,
867        \c!spaceafter=1em,
868        %\c!title=,
869        %\c!author=,
870        %\c!source=,
871        \c!indicator=continue,
872        indent={first,always,2em},]
873  \setupmaterial [\c!number] [\c!before={(},\c!after={)},
874              \c!prefix=no,\c!start=0,
875              \c!style=\namedmaterialparameter\c!title\c!style,
876              \c!color=\namedmaterialparameter\c!title\c!color,
877              \c!numberconversion=cn,\c!way=\v!by\v!chapter]
878  \setupmaterial [\c!title] [\c!style=\ss\tfa,\c!color=,\c!align=center,
879              \c!before=,]
880  \setupmaterial [\c!author] [\c!style=\tf,\c!color=,\c!align=flushright]
881  \setupmaterial [\c!source] [\c!before=\par,\c!align=flushright]
882  \setupmaterial [indicator,indicator_helper]
883        [style=\ss\bf,before={ (~},after={~) },prefix=no,
884        numberconversion=cn,type=line,reset=false]

885  \def\material_counter_parameter#1%
886   {\begingroup
887    \def\currentmaterial{#1}%
888    \setupalign[\namedmaterialparameter\c!title\c!align]
889    \usematerialstyleandcolor\c!style\c!color
890    \namedmaterialparameter\currentmaterial\c!before
891    \incrementcounter[#1]\convertedcounter[#1]%
892    \namedmaterialparameter\currentmaterial\c!after
```

```
893      \endgroup}

894   \def\material_parameter#1%creat new element in material
895    {{\begingroup
896     \def\currentmaterial{#1}%
897     \setupalign[\namedmaterialparameter\currentmaterial\c!align]
898     \usematerialstyleandcolor\c!style\c!color
899     \namedmaterialparameter\currentmaterial\c!before
900     \rootmaterialparameter\currentmaterial
901     \namedmaterialparameter\currentmaterial\c!after
902     \par\endgroup}}

903   \tolerant\protected\def\startmaterial[#1]{\begingroup%
904     \lettonothing\currentmaterial%
905     \edef\p_indicator{\rootmaterialparameter\c!indicator}
906     \edef\p_reset{\namedmaterialparameter{indicator}\c!reset}
907     \processaction[\p_indicator][
908      reset=>\let\indicator_reset_helper\resetindicators,
909     continue=>\continue_countertrue\let\indicator_reset_helper\relax,]
910     \processaction[\p_reset][
911      true=>\let\indicator_reset_helper\resetindicators,
912      false=>\continue_countertrue\let\indicator_reset_helper\relax,]
913    \env_materialtrue%
914     \iffirstargument\setupcurrentmaterial[#1]\fi
915    \indicator_reset_helper
916    \usematerialstyleandcolor\c!style\c!color%
917     \blank[\rootmaterialparameter\c!spacebefore]
918     \startalignment[\rootmaterialparameter\c!align]
919       \material_counter_parameter\c!number
920       \material_parameter\c!title
921       \material_parameter\c!author
922     \stopalignment
923     \blank[\rootmaterialparameter\c!spaceafter]
924     \setupindenting[\rootmaterialparameter{indent}]
925    }
926   \def\stopmaterial{%
927     \material_parameter\c!source
928     \indicator_reset_helper
929     \endgroup}

930   \tolerant\protected\def\indicator[#1]#:#2{\begingroup%
931     \def\currentmaterial{indicator}
932     \iffirstargument\setupmaterial[indicator][#1]\fi%
933     \edef\indicator_type{\namedmaterialparameter\currentmaterial\c!type}%
934     \edef\indicator_reset{\namedmaterialparameter\currentmaterial\c!reset}%
935     \processaction[\indicator_type]%
936         [line=>\let\indicator_type\underbar,%
937         none=>\let\indicator_type\relax]%
938    \usematerialstyleandcolor\c!style\c!color%
939    \indicator_type{%
940    \namedmaterialparameter\currentmaterial\c!before%
941     \ifmode_check%
```

```
942    \ifenv_material\color[red]{material}\else\color[red]{\currentitemgroup}\fi%
943    \ifcontinue_counter\color[red]{continue}\fi%
944  \fi%
945  \ifenv_material%
946    \ifmode_check\color[red]{::indicator}\fi%
947    \incrementcounter[\currentmaterial]%
948    \convertedcounter[\currentmaterial]%
949  \else%
950    \ifmode_check\color[red]{::helper}\fi%
951    \incrementcounter[indicator_helper]%
952    \convertedcounter[indicator_helper]%
953  \fi%
954  \namedmaterialparameter\currentmaterial\c!after%
955  #2}
956  \endgroup}

957  \def\indicators{\convertedcounter[indicator]%%% TODO 增强該命令的用法
958        \incrementcounter[indicator]}
959  \def\resetindicators{\setcounter[indicator][0]%
960          \setcounter[indicator_helper] [0]}
```

Memoir Ever

9 设置 close 环境

```
961  \cnt_closetest=1\relax
962  \tolerant\protected\def\closebar#1{
963    \startbar[underbar]
964      \scratchcounter\numexpr16/\plustwo\relax
965      \interwordspacesbefore\scratchcounter
966        \zwj\runninghbox{\resetbar{#1}}\zwj
967      \interwordspacesafter\scratchcounter
968    \stopbar}
```

close 环境近乎是单独设计的。该环境主要使用两个命令：\startclose 和 \stopclose 用来创建该环境，\closechoice 用来标记环境内的选项，该命令随行文放置即可。选项无须再次在文章后放置，\stopclose 会自行放置。

close 环境同样继承了 answer 的键值。此外设置了 reset 键来选择是否每一篇重置选项的题号，其他的键值：barcolor barstyle 设置下划线样式 before after style color 用于整体环境 width frame stopper distance 用于选项前题号样式

```
969  \setupclose[%showanswer=false,
970        answer=\getanswerfromchoice,
971        reset=true,
972        %mp=.
973        answerstyle=\ss,
974        answercolor=red,
975        width=2em,% set order width
976        frame=off,% set order frame
977        stopper=.,% set order stopper
978        distance=.5em,% set order distance
979        after=\blank[halfline]]

980  \def\closechoice[#1]{%定义文章内的序号。这是用户命令，用来记录选项(定义选项列表)
981    \expandafter\gdef\csname close:\romannumerals\cnt_closetest\endcsname{#1}%
982    % cnt_closetest 用于标记选项列表，会随着选项题目增加，无论是否启用重置，该计数器都会记录并自增
983    % 在生成选项序列时，该计数器可以进行：(1) 是否设置了选项 (2) 递增出选项序列
984    % 该计数器属于局域，每篇文章都会重置回 1。
985    \ifclose_counter_reset%
986      \begingroup%
987        \switchtocolor[\closeparameter{barcolor}]%
988        \closeparameter{barstyle}%
989        \closebar{\number\cnt_closetest}%
990      \endgroup%
991    \else%
992      \begingroup\let\par\relax% 将其封装在局域，避免 par 命令失效
993        \switchtocolor[\closeparameter{barcolor}]%
994        \closeparameter{barstyle}%
995        \startitemgroup[env_question][n,continue,text,nostopper]%
996                    [lefttext=\closebar,righttext=]%
997            \item \setcounter [strc_close_counter][\currentitemnumber]%
998                \savecounter[strc_close_counter]\relax%
999        \stopitemgroup%
1000      \endgroup%
```

```
1001    \fi%
1002    \advance\cnt_closetest by 1\relax}

1003    \def\docloseitem#1{\startcitem #1\stopcitem}
1004    \def\close_order{%选项前的序号样式, 序号通过 tempa 设定
1005     \noindent\unskip%
1006     \inframed[width=\closeparameter\c!width,
1007         frame=\closeparameter\c!frame,
1008         foreground=color,
1009         foregroundcolor=\closeparameter\c!color,
1010         foregroundstyle=\closeparameter\c!style]{%
1011      \convertnumber{n}{\number\cnt_closetest_tempa}%
1012      \closeparameter\c!stopper%
1013      \show_point_or_answer[close][answer]}%
1014     \hskip\closeparameter\c!distance\relax
1015     \global\advance\cnt_closetest_tempa by 1\relax
1016     \unskip}
1017    \def\placeclosechoice{%
1018     \ifnum\cnt_closetest=1\relax
1019       \color[red]{it seems that there is no
1020            "closechoice" be setted,
1021            please check it!}%
1022     \fi%
1023    \scratchcounter\numexpr\cnt_closetest-1\relax
1024    \cnt_closetest=1\relax%
1025    \def\closetest_list{\csname close:\romannumerals\cnt_closetest\endcsname}%
1026    \useclosestyleandcolor\c!style\c!color%
1027    \dorecurse{\number\scratchcounter}{%
1028     \hbox{\hsize=\textwidth%
1029        \parentitemnumber=\currentitemnumber\relax
1030        \edef\currentuserorder{\number\cnt_closetest_tempa%放置在这里才能正确获取题号
1031         \ifnum\rawcountervalue[Unicode_botlevel]=0\relax\else% 抽出 order 定义,
1032         (\rawcountervalue[Unicode_botlevel])\fi}% 因為該環境沒有上級 question 環境
1033      \hbox{\close_order}\hbox{%
1034      \vtop{%
1035       \startchoice%
1036       \processcommacommand[\closetest_list]\docloseitem%
1037       \stopchoice%
1038      }}}%
1039     \advance\cnt_closetest by 1\relax}%
1040     \cnt_closetest=1\relax%
1041    }

1042    \tolerant\protected\def\startclose[#1]{\begingroup%
1043    \env_closetrue%
1044    \iffirstargument\setupclose[#1]\fi%
1045    \edef\p_reset{\closeparameter\c!reset}
1046     \ifx\p_reset\c!true%
1047       \close_counter_resettrue%
1048     \else\close_counter_resetfalse\fi%
1049     \restorecounter[strc_close_counter]% 继承 question 的序号
```

```
1050    \scratchcounter\rawcountervalue[strc_close_counter]%
1051    \ifclose_counter_reset\cnt_closetest_tempa=1\relax\else%
1052     \cnt_closetest_tempa=\number\scratchcounter%tempa 标记文章内的序号和选项前的序号
1053     \cnt_closetest_tempa=\numexpr\cnt_closetest_tempa+1\relax
1054    \fi\closeparameter\c!before%
1055    }
1056    \def\stopclose{%
1057    \closeparameter\c!after%
1058    \placeclosechoice%
1059    \endgroup%
1060    }
```

Memoir Ever

10 设置 optclose 环境

该环境是 close 环境的变体,但目前并未对该环境进行更多的设置。该环境的主要命令有两个:
\startoptclose 和 \stopoptclose 用来创建该环境, \ocitem 用来标记环境内的选项,该命令随行文放置即可。
\ocitem[answer=blabla]blablabla

此外,还有一个特殊的命令,\specialocitem 仅具有 answer 键值。可以通过 \setupocitem 来调整该命令的样式。该命令标记答案,且无须任何环境包裹。

```
1061  \setupocitem [%answer=,
1062         %color=,
1063         %point=,
1064         %showanswer=false,
1065         answerprelabel={answer: },]

1066  \def\startoptclose{
1067  \startitemgroup[env_question][n,continue,text,nostopper][lefttext=\closebar,righttext=]%
1068  \leftskip=0pt\relax
1069  \set_count_envlevel[env_question:1][question]%
1070  }

1071  \def\stopoptclose{
1072  \stopitemgroup}

1073  \setupocitem[answercolor=red,answerstyle=\ss,]

1074  \tolerant\def\ocitem[#1]#:#2%
1075    {\begingroup%
1076    \iffirstargument\setupocitem[#1]\fi%
1077    \useocitemstyleandcolor\c!style\c!color%
1078    \let\par\relax\increaseQusetionID%        %%%% 必須命令, 自增序號以備調用
1079    \item \show_point_or_answer[ocitem][point]%
1080       \set_count_itemlevel[env_question:2][ocitem]%%%% 必須命令, 設定序號
1081       \allowbreak\doifsomethingelse{#2}{(#2)}{}%
1082       \show_point_or_answer[ocitem][answer]%
1083       \dataset_collector[ocitem][ocitem]%     %%%% 必須命令, 設定可調用信息
1084       \setcounter   [strc_close_counter][\currentitemnumber]%
1085       \savecounter   [strc_close_counter]%
1086    \endgroup}

1087  \def\specialocitem[#1]{\begingroup\let\par\relax%
1088    \setupocitem[#1]\useocitemstyleandcolor\c!style\c!color%%
1089    \startitemgroup[env_question][n,continue,text,nostopper][lefttext=\closebar,righttext=]%
1090    \item \ifenv_close\relax\else%
1091       \increaseQusetionID%
1092       %\show_point_or_answer[ocitem][point]%
1093       \set_count_itemlevel[env_question:2][ocitem]%
1094       \show_point_or_answer[ocitem][answer]%
1095       \dataset_collector[ocitem][ocitem]%
1096       \setcounter   [strc_close_counter][\currentitemnumber]%
1097       \savecounter   [strc_close_counter]\fi%
1098    \stopitemgroup\removeunwantedspaces\endgroup}
```

Memoir Ever

11 score

放置在 answer 环境内标记得分。

```
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}\\
```

```
1099  \newcount\cnt_step_score
1100  \def\score_calc#1{% only show number
1101    \newcount\cnt_step_score_temp%
1102    \global\cnt_step_score_temp=#1\relax%
1103    \ifnum\cnt_step_score=0\global\cnt_step_score=#1\relax\else%
1104    \global\cnt_step_score=\numexpr\cnt_step_score+\cnt_step_score_temp\relax%
1105    \fi\number\cnt_step_score%
1106  }
1107  \def\dotfill{\leavevmode%
1108    \xleaders\hbox to 0.25em{\hfil.\hfil}%
1109    \hfill\kern 0pt\relax}
1110  \def\cdotfill{\leavevmode%
1111    \xleaders\hbox to 0.25em{\hfil$\cdot$\hfil}%
1112    \hfill\kern 0pt\relax}

1113  \installnamespace        {score}
1114  \installcommandhandler \????score {score} \????score
1115  \setupscore[style=\ssa,color=red,dotstyle=\ss,dotcolor=red,score=]

1116  \tolerant\protected\def\score[#1]#:#2{\begingroup% format style
1117    \iffirstargument\setupscore[#1]\fi%
1118    \scoreparameter\c!before%
1119    \usescorestyleandcolor\c!style\c!color%
1120    \start\space\scoreparameter{dotstyle}%
1121    \switchtocolor[\scoreparameter{dotcolor}]%
1122    \doif{\scoreparameter\c!type}{}{\dotfill}%
1123    \doif{\scoreparameter\c!type}{space}{}%
1124    \doif{\scoreparameter\c!type}{hfill}{\unskip\hfill}%
1125    \doif{\scoreparameter\c!type}{dotfill}{\dotfill}%
1126    \doif{\scoreparameter\c!type}{cdotfill}{\cdotfill}%
1127    \space\stop\scoreparameter\c!left%
1128    \doif{\scoreparameter{score}}{}        {#2}%
1129    \doif{\scoreparameter{score}}{default}  {#2}%
1130    \doif{\scoreparameter{score}}{calculation}{\score_calc{#2}}%
1131    \doif{\scoreparameter{score}}{complex}  {#2 : \score_calc{#2}}%
1132    \scoreparameter\c!right\scoreparameter\c!after%
1133  \par\endgroup}
1134  \def\resetscore{%
1135    \cnt_step_score_temp=0\relax%
1136      \cnt_step_score=0\relax%
```

```
1137  }
1138  \installnamespace     {writingbox}
1139  \installcommandhandler \????writingbox  {writingbox}  \????writingbox
1140  \setupwritingbox[row=10,column=18,width=2em,height=2em,midheight=1em]
1141  \newcount \tbl_row
1142  \newcount \tbl_col
1143  \def\makewritingbox{\dosingleempty\makewritingbox_indeed}
1144  \def\makewritingbox_indeed[#1]{\begingroup%
1145    \tbl_row=\writingboxparameter{row} % yoko
1146    \tbl_col=\writingboxparameter{column} % tate
1147    \setupTABLE[split=yes]
1148    \setupTABLE[column][width=\writingboxparameter{width}]
1149    \setupTABLE[row][odd][height=\writingboxparameter{midheight}]
1150    \setupTABLE[row][even][height=\writingboxparameter{height}]
1151    \bTABLE
1152      \bTR \bTD[nc=\number\tbl_col] {} \eTD \eTR
1153      \dorecurse{\number\tbl_row}{
1154      \bTR
1155        \dorecurse{\number\tbl_col}{\bTD {} \eTD}
1156      \eTR
1157      \bTR \bTD[nc=\number\tbl_col] {} \eTD \eTR}
1158    \eTABLE
1159  \endgroup}
```

12 模拟例子

```
1160  \dorecurse{200}{
1161  \expandafter\getrandomnumber \csname n_\romannumeral\recurselevel\endcsname {1} {20}}
```

```
1162  \dorecurse{200}{
1163  \expandafter\getrandomnumber \csname nn_\romannumeral\recurselevel\endcsname {1} {20}}
```

```
1164  \def\longtesttxt[#1]{%%1. \longtesttxt[\romannumeral 1]
1165  \ifcase\csname n_#1\endcsname%
1166    就像按 S 来响应错误一样。\or%0
1167    这个例子不太完整，因为页码没有存储在有用的地方。\or%1
1168    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%2
1169    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%3
1170    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性。\or%4
1171    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
1172    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
1173    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
1174    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
1175    此命令将框寄存器中的列表副本添加到当前列表中。\or%9
1176    请注意，每个寄存器在创建后都会被初始化。\or%0
1177    此命令提供了一种直接指定分隔符的方法。\or%1
1178    数字应该是七个十六进制数字。\or%2
1179    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
1180    Plain TeX 有二十多个定义，类似于： `\type{\def\rceil{\delimiter"5265307 }}'。\or%4
1181    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"07"。\or%5
1182    \type{\Delimiter} 指定了一个数学符号，并以两种方式工作。\or%6
1183    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 \type{
1184    \delcode}。\or%7
1185    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}。\or%8
1186    对于 \type{\rceil}，这意味着 \type{\delcode} 是"265307，\type{\mathcode} 是"5265"。\or%9
1187    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}
```

```
1188  \def\shorttesttxt[#1]{%%1. \shorttesttxt[i]
1189  \ifcase\csname nn_#1\endcsname%
1190    悬挂压痕的数量\or%0
1191    段落中正线的宽度\or%1
1192    开始一个没有缩进的新段落\or%2
1193    告诉TeX尝试增加或减少段落中的行数\or%3
1194    扩展令牌，但在到达非空间令牌之前什么都不做\or%4
1195    只有当主垂直列表为空时，它才会结束当前工作\or%5
1196    该命令在内部垂直模式下是不允许的\or%6
1197    任意中断由三个字符序列组成\or%7
1198    另一个无效号码被传递了\or%8
1199    来自假部分的条件命令\or%9
1200    线路需要转移的金额\or%0
1201    用于指定显示样式\or%1
1202    关系后断线的惩罚\or%2
1203    此命令定义了宏\or%3
1204    家庭的脚本字体\or%4
1205    尺寸没有变化\or%5
```

```
1206    额外的空间\or%6
1207    左边的段落\or%7
1208    当前线宽\or%8
1209    文本样式\or%9
1210    序列\fi}

1211    \def\choicenum[#1][#2][#3]{
1212      \ifnum\csname nn_#1\endcsname < 6
1213        \expandafter\startcitem[*]{\shorttesttxt[\romannumeral #2]} \stopcitem
1214      \else
1215        \expandafter\startcitem{\shorttesttxt[\romannumeral #3]} \stopcitem
1216      \fi
1217    }

1218    \newcount\LNUM\LNUM=1\relax
1219    \newcount\CNUM\CNUM=1\relax
1220    \newcount\DNUM\DNUM=1\relax
1221    \newcount\ENUM\ENUM=2\relax

1222    \def\example@choice#1{
1223      \setupquestion[point=2,answer=\getanswerfromchoice]
1224      \dorecurse{#1}{
1225       \startquestion
1226       \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
1227          \startchoice
1228          \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1229          \global\advance\CNUM by 1\relax\global\advance\DNUM by 2\relax\global\advance\ENUM by 2\relax
1230          \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1231          \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
1232          \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1233          \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
1234          \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1235          \advance\CNUM by 1\relax\advance\DNUM by 1\relax\advance\ENUM by 2\relax
1236          \stopchoice
1237          \startanswer
1238          \input knuthmath
1239          \stopanswer
1240      \stopquestion}
1241    }
1242    \def\example@fillin#1{
1243      \setupquestion[answer=,point=\getpointfrompitem]
1244      \setuppitem  [point=3,answer=\getanswerfromfillin]
1245      \startquestion
1246       \longtesttxt[\romannumeral\LNUM]
1247      \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
1248      \startproblem
1249      \dorecurse{#1}{
1250       \startpitem
1251        \ifmode_showanswer DDD \else XXXX\fi
1252        \longtesttxt[\romannumeral\CNUM]\fillin[]{\fillinanswer}
1253      \stoppitem
1254       \startanswer
```

```
1255          \input knuthmath
1256        \stopanswer
1257      \global\advance\CNUM by 1\relax}
1258    \stopproblem
1259    \stopquestion
1260  }
1261  \def\example@pitem#1{
1262    \setupquestion[answer=,point=\getpointfrompitem]
1263    \setuppitem[point=4]
1264    \startquestion
1265    \longtesttxt[\romannumeral\LNUM]
1266    \def\fillinanswer{\shorttesttxt[\romannumeral\CNUM]}
1267    \startproblem
1268    \dorecurse{#1}{
1269      \startpitem[answer={answer : \recurselevel},]
1270      \longtesttxt[\romannumeral\CNUM]\stoppitem
1271      \startanswer
1272          \input knuthmath
1273      \stopanswer
1274      \global\advance\CNUM by 1\relax}
1275    \stopproblem
1276    \stopquestion
1277  }
1278  \def\example@material#1{
1279    \startmaterial
1280    \input knuthmath
1281    \stopmaterial
1282    \setupquestion[point=6,answer=\getanswerfromchoice]
1283    \dorecurse{#1}{
1284    \startquestion
1285    \longtesttxt[\romannumeral\LNUM]\global\advance\LNUM by 1\relax
1286        \startchoice
1287        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1288        \global\advance\CNUM by 1\relax%
1289        \global\advance\DNUM by 2\relax%
1290        \global\advance\ENUM by 2\relax%
1291        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1292        \advance\CNUM by 1\relax%
1293        \advance\DNUM by 1\relax%
1294        \advance\ENUM by 2\relax%
1295        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1296        \advance\CNUM by 1\relax%
1297        \advance\DNUM by 1\relax%
1298        \advance\ENUM by 2\relax%
1299        \choicenum[\romannumeral\CNUM][\the\DNUM][\the\ENUM]
1300        \advance\CNUM by 1\relax%
1301        \advance\DNUM by 1\relax%
1302        \advance\ENUM by 2\relax%
1303        \stopchoice
1304        \startanswer
1305          \input knuthmath
```

```
1306                \stopanswer
1307          \stopquestion}
1308     }
1309     \def\example@close#1{
1310        \startclose
1311        \def\closechoicex{\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by 1\relax}
1312        \dorecurse{#1}{
1313          \dorecurse{3}{
1314            \longtesttxt[\romannumeral\CNUM]
1315            \global\advance\CNUM by 1\relax
1316          }\closechoice[\closechoicex,{[*]}\closechoicex},\closechoicex]
1317          \longtesttxt[\romannumeral\CNUM]}
1318        \stopclose
1319     }

1320     \def\example@optclose#1{
1321        \startoptclose
1322        \def\closechoicex{{\ss\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by 1\relax}}
1323        \dorecurse{#1}{
1324          \dorecurse{3}{
1325            \longtesttxt[\romannumeral\CNUM]
1326            \global\advance\CNUM by 1\relax
1327          }\ocitem[answer={\shorttesttxt[\romannumeral\DNUM]}]{\closechoicex,\closechoicex,\closechoicex}
1328          \longtesttxt[\romannumeral\CNUM]}
1329        \stopoptclose
1330     }

1331     \def\example@specialoptclose#1{
1332        \startoptclose
1333        \def\closechoicex{\shorttesttxt[\romannumeral\DNUM]\global\advance\DNUM by 1\relax}
1334        \dorecurse{#1}{
1335          \dorecurse{3}{
1336            \longtesttxt[\romannumeral\CNUM]
1337            \global\advance\CNUM by 1\relax
1338          }\specialocitem[answer={\closechoicex}]
1339          \longtesttxt[\romannumeral\CNUM]}
1340        \stopoptclose
1341     }

1342     \newcount\qid_in_chap\qid_in_chap=1\relax
1343     \def\resetanswerid{\qid_in_chap=1\relax}
1344     \def\typeanswerbychap{\dosingleempty\typeanswerbychap_indeed}
1345     \def\typeanswerbychap_indeed[#1]#2{% #1 = chapter number, 該命令會自行遞增計數器來獲取答案
1346       \iffirstargument\qid_in_chap=#1\relax\fi%
1347       \datasetvariable{Answer_collector}{#2-\the\qid_in_chap}{answer}%
1348       \advance\qid_in_chap by 1\relax}
1349     \def\typeanswerdirect#1{% #1 = qid, 需要自行輸入來獲取某個題目的答案
1350       \datasetvariable{Answer_collector}{#1}{answer}}
1351     \def\typeanswerlist{\dodoubleempty\typeanswerlist_indeed}
1352     \def\typeanswerlist_indeed[#1][#2]#3{%#1 = chapter number
1353       \ifsecondargument\qid_in_chap=#2\fi% #2 = from which question to start
1354       \dorecurse{#3}{% answer amount
```

```
1355      \datasetvariable{Answer_collector}{#1-\the\qid_in_chap}{answer}%
1356    \advance\qid_in_chap by 1\relax}
1357    }

1358    \newcount\answer@seq@tempa\answer@seq@tempa=0\relax%
1359    \newcount\answer@seq@tempb\answer@seq@tempb=0\relax%
1360    \newcount\answer@seq@tempc
1361    \def\type@answer@i[#1*#2,#3,#4]{% #1 for row #2 for column %
1362                    % #3 chapter number #4 last answer id%
1363     \answer@seq@tempc=\numexpr#4-1\relax%
1364      \bTABLE
1365      \dorecurse{#1}{\bTR
1366       \dorecurse{#2}{%
1367       \ifnum\answer@seq@tempa>\answer@seq@tempc \bTD\eTD\relax\else%
1368          \advance\answer@seq@tempa by 1\relax%
1369           \expanded{\bTD
1370            \datasetvariable{Answer_collector}{#3-\the\answer@seq@tempa}{userorder}
1371      \eTD}\fi}
1372      \eTR\bTR
1373       \dorecurse{#2}{%
1374        \ifnum\answer@seq@tempb>\answer@seq@tempc \bTD\eTD\relax\else%
1375       \advance\answer@seq@tempb by 1\relax%
1376         \expanded{\bTD
1377          \datasetvariable{Answer_collector}{#3-\the\answer@seq@tempb}{answer}
1378      \eTD}\fi}
1379      \eTR}
1380     \eTABLE
1381    }

1382    \def\type@answer@ii{
1383    \answer_seq=0\relax
1384    \bTABLE
1385    \dorecurse{4}{\bTR
1386     \dorecurse{5}{
1387        \advance\answer_seq by 1\relax%
1388         \expanded{\bTD\the\answer_seq\eTD}
1389      \expanded{\bTD
1390       \datasetvariable{Answer_collector}{\the\answer_seq}{answer}
1391     \eTD}}
1392   \eTR}
1393   \eTABLE}
```

Memoir Ever

13   模式设置

```
1394   \definemode[teacher][keep]
1395   \definemode[student][keep]
1396   \definemode[check] [keep]
1397   \doif{\moduleparameter{basicexam}{mode}}{teacher}
1398      {\enablemode[teacher]}{}
1399   \doif{\moduleparameter{basicexam}{mode}}{student}
1400      {\enablemode[student]}{}
1401   \doif{\moduleparameter{basicexam}{mode}}{}
1402      {\enablemode[student]}{}
1403   \startmode[teacher]
1404     \mode_showanswertrue
1405     \mode_showpointtrue
1406   \stopmode
1407   \startmode[student]
1408     \mode_showanswerfalse
1409     \mode_showpointfalse
1410   \stopmode
1411   \protect
1412   \stopmodule
1413   \endinput
```