customenvs [en]

Some custom environments,
with spacing enhancements.

Version 0.1.2 -- 17/03/2024

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1 History

v0.1.1 : Pencil of skills
v0.1.1 : Skills table (only french for the moment...)
v0.1.0 : Initial version

2 The package customenvs

2.1 Idea

The idea is to propose some classics environments with customizations (some are, for the moment, only in french) :

- write in *multicols*, with spacings enhancements ;
- present answers for a *MCQ* ;
- create a list with *choosen items* (randomly or by numbers) ;
- present a skill table.

The globa idea is ti propose *user-friendly* environments, with explicit customizations, without using verbose syntax ; but there's other solutions, using for example `\vspace` ou `\setlength` or `spacingtricks` package.

2.2 Loading

The package loads within the preamble with `\usepackage{customenvs}`.
Loaded packages are

- `xstring`, `simplekv`, `listofitems`, `randomlist` and `xintexpr` ;
- `enumitem` ;
- `multicol` ;
- `tabularray` ;
- `fontawesome5` ;

Due to limitations, `enumitem`/`multicol`/`tabularrayfontawesome5` can be *un*loaded by `customenvs` (user must load them manually) via options :

- ⟨`noenum`⟩ ;
- ⟨`nomulticol`⟩ ;
- ⟨`notblr`⟩ ;
- ⟨`nofa`⟩ ;

```
%with all packages
\usepackage{customenvs}

%with option to no load some packages
\usepackage[option(s)]{customenvs}
```

3 Answers for a MCQ

3.1 Idea

The idea is to propose an environment to present answers for a MQC with `tabularray` (and not `multicols`). It's possible to use 2, 3 or 4 answers (and with 4 answers it's possible to use 2 columns.)

```
\AnswersMCQ[options]{list of answers}<tblr options>
```

The avalailable `options` are :

- `Width` : `0.99\linewidth` by default ;
- `Lines` : `false` by default ;
- `SpaceCR` for Columns/Rows spacing, within `col/row` or `global` : `6pt/2pt` by default ;
- `NumCols`, 2 or 4 : `4` by default ;
- `Labels` for the labels : `a.` by default ;
  - with `a` to *enumerate* `a b c d` ;
  - with `A` to *enumerate* `A B C D` ;
  - with `1` to *enumerate* `1 2 3 4` ;
- `FontLabels` : `\bfseries` by default ;
- `SpaceLabels` : `\kern5pt` by default ;
- `Swap`, for ACBD instead of ABCD : `false` by default.

The list of answers must be given within `answA § answB § ...`.
Specific options for `tblr` are given between last optionnal argument, between `<...>`.

3.2 Examples

```
%default output
\AnswersMCQ{Answer A § Answer B § Answer C § Answer D}
```

a. Answer A **b.** Answer B **c.** Answer C **d.** Answer D

```
\AnswersMCQ[Lines]{Answer A § Answer B § Answer C § Answer D}
```

a. Answer A	**b.** Answer B	**c.** Answer C	**d.** Answer D

```
\AnswersMCQ[Lines,Labels=(1.),SpaceLabels={~~~}]{Answer A § Answer B § Answer C}
```

(1.) Answer A	**(2.)** Answer B	**(3.)** Answer C

```
\AnswersMCQ[Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A **B.** Answer B **C.** Answer C **D.** Answer D

```
\AnswersMCQ[Labels={1.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

1. Answer A **2.** Answer B **3.** Answer C **4.** Answer D

```
\AnswersMCQ[NumCols=2,Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A
C. Answer C
B. Answer B
D. Answer D

```
\AnswersMCQ[NumCols=2,Swap,Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A
B. Answer B
C. Answer C
D. Answer D

```
\AnswersMCQ[Lines,NumCols=2,SpaceCR=6pt/10pt]%
    {Answer A § Answer B § Answer C § Answer D}
```

a. Answer A	**c.** Answer C
b. Answer B	**d.** Answer D

```
\AnswersMCQ[Width=10cm,NumCols=2,Lines]%
    {$\displaystyle\frac1x$ § $1+\displaystyle\frac1x$ § $-2x^2+5$ § $-\infty$}
    <rows={1.5cm}>
```

a. $\frac{1}{x}$	**c.** $-2x^2+5$
b. $1+\frac{1}{x}$	**d.** $-\infty$

4 List avec with picked elements (random or not)

4.1 Global use

The idea is to :

- create a list of items, the base for choices ;
- print the list with picked items.

```
\CreateItemsList{list}{macro}{listname}
```

```
\ListItemsChoice[keys]{macro}{listname}(numbers)<enumitem options>
```

The available `keys` are :

- `Type` : `enum` or `item` ;
- `Random` : `false` by default.

The second argument, mandatory and between `{...}` is the macro for the list.
The third argument, mandatory and between `{...}` is the name of the list.
The fourth argument, mandatory and between `(...)` give :

- the number of random items to display, with `Random=true` ;
- the numbers of picked itemps, within `num1,num2,...`.

The last argument, optional and between `<...>` gives specific options to `enumitem` environment.

Controls are done :

- to verify that the liste doesn't exist (for the creation) ;
- to verify that that the list still exist (for the display).

4.2 Examples

```
%creation of list ListItems, with macro \mylistofitems
\CreateItemsList%
    {Answer A,Answer B,Answer C,Answer D,Answer E,Answer F,Answer G,Answer H}%
    {\mylistofitems}{ListItems}
```

```
%items random
\ListItemsChoice[Random]{\mylistofitems}{ListItems}(5)
```

1. Answer D
2. Answer A
3. Answer G
4. Answer B
5. Answer F

```
%items picked
\ListItemsChoice{\mylistofitems}{ListItems}(1,4,3,8,2)
```

1. Answer A
2. Answer D
3. Answer C
4. Answer H
5. Answer B

```
%creation of list ListItemsB, with macro \mylistofitemsb
\CreateItemsList%
    {{$\int_0^1 x^2 dx$},{$\int_0^1 x^3 dx$},{$\int_0^1 x^4 dx$},...}%
    {\mylistofitemsb}{ListItemsB}
```

```
%items picked
\ListItemsChoice[Type=item]{\mylistofitemsb}{ListItemsB}(7,2,1,5,3)<label=$--$>
```

-- $\int_0^1 x^8 dx$

-- $\int_0^1 x^3 dx$

-- $\int_0^1 x^2 dx$

-- $\int_0^1 x^6 dx$

-- $\int_0^1 x^4 dx$

5 Pencil of skills

5.1 Global use

The idea is to :

- present of list of categories and skills ;
- prensented like a pencil.

The code (within CC-BY-SA 4.0 license) is adapted from :
https://tex.stackexchange.com/questions/504092/replicating-a-fancy-bordered-text-style-in-latex/504145#504145

```
\PencilSkills[keys]<tikz options>{listofskills}
```

The style is globally fixed, but there's some customization available.

5.2 The macro

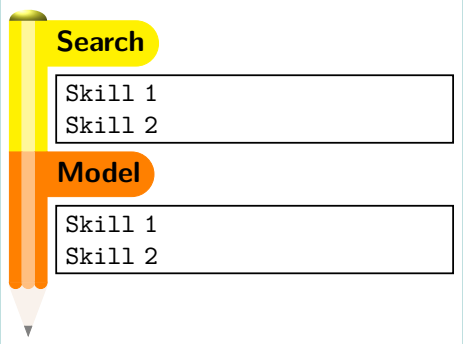
Available `keys` are :

- `FontCateg` : font for the categories ;
- `FontBlock` : font for the skills ;
- `Colors` : list of category's colors
  `BgCateg1/FgCateg1,BgCateg1/FgCateg1,...`
  (if `FgCateg1` est missing, `black` is used)
- `BlockWidth` : width of skill's block ;
- `Scale` : global scale
- `BlackWhite` : boolean for B&W.

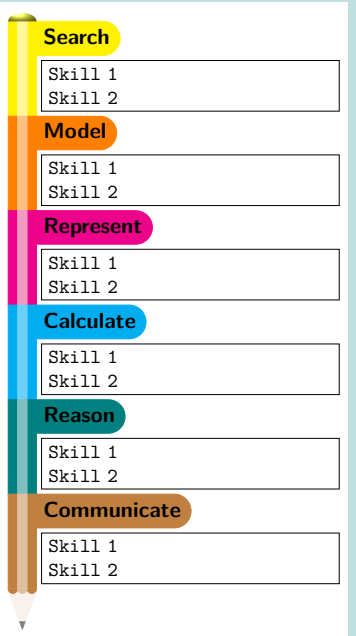
The second argument, optional and between `<...>` gives specific options to `enumitem` environment.
The last argument, mandatory and between `(...)` give the list of categories/skills, within `Categ1/ListSkills1,Categ2/ListSkills2,...`.

5.3 Examples

```
%default output
\PencilSkills{Search/Skill 1\\ Skill 2,Model/{Skill 1\\ Skill 2}}
```



```
\PencilSkills[Scale=0.75]%
    {Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2},%
    Represent/{Skill 1\\Skill 2},Calculate/{Skill 1\\Skill 2},%
    Reason/{Skill 1\\Skill 2},Communicate/{Skill 1\\Skill 2}}
```




```
\PencilSkills[Scale=0.75,BlockWidth=3cm]<rotate=90>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
\hspace{1cm}
\PencilSkills[Scale=0.75,BlockWidth=3cm]<rotate=-90>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
\hspace{1cm}
\PencilSkills[Scale=0.75,BlockWidth=3cm,BlackWhite]<rotate=45>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
```