

# The **dashundergaps** package

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# 1 Introduction

This package (v1.2) *helps you to* use (a) pattern(s) from this list:

1. dashing;
2. dotting;
3. underlining

for a word which can be either

1. hidden;
2. or not.

This can be *useful in* these situations:

1. You are writing a document for which you need to dash or (and) to dot text,
2. You want to write a test for which students have to “fill in the gaps,” and you want to chose when to print the answers.

## 2 Use

### 2.1 Loading the Package

To *load the package*, please use

```
\usepackage[options]{dashundergaps}
```

### 2.2 Available Options

Without any option, the package will not be really useful, as it will not perform anything that will be nice for you. Consequently, the *following options are available*:

- **dash**: will dash `text` if used with the command

```
\dashuline{text}
```

where you want “text” to be dashed (*i.e.* somewhere in the `document environment`)

- **dot**: will dot `text` if used with the command

```
\dotuline{text}
```

where you want “text” to be dotted (*i.e.* somewhere in the `document environment`),

- **phantomtext**: will help you to write a pattern at the place of the text. This pattern can be

- dashing, if used with `dash` option;
  - dotting, if used with `dot` option;
  - underlining, if used with (`dash and dot`) options *or* with neither `dash` nor `dot`;
  - the text in itself, if used with `teachernotes` option.
- `teachernotes`: see the last point of `phantomtext`,
  - `displaynbgaps`: will produce, at the end of your document (and in the center of the page), a summary of the number of gaps like

**GAPS:** *x*.

### 3 Possible Combinations

All the possible sensed commands (the launching order has no importance) of `dashundergaps.sty` are given at Table 1 *except* the use of `displaynbgaps`, which can trivially be used iff `phantomtext` is used. Here, “×” is equivalent to the well-known “N.A.” and thus means “Not Applicable here,” or, equivalently, “Not Available.”

Option(s)	Consequence		
	<code>\gap{text}</code>	<code>\dashuline{text}</code>	<code>\dotuline{text}</code>
dash (only)	×	<u>text</u>	×
dot (only)	×	×	<u>text</u>
dash, dot	×	<u>text</u>	<u>text</u>
phantomtext (only)	___ (1)	×	×
phantomtext, dash	___ (1)	<u>text</u>	×
phantomtext, dot	... (1)	×	<u>text</u>
phantomtext, dash, dot	___ (1)	<u>text</u>	<u>text</u>
phantomtext, teachernotes	<b>text</b>	×	×
phantomtext, dash, teachernotes	<b>text</b>	<u>text</u>	×
phantomtext, dot, teachernotes	<b>text</b>	×	<u>text</u>
phantomtext, dash, dot, teachernotes	<b>text</b>	<u>text</u>	<u>text</u>

Table 1: Possible sensed commands of this package except `displaynbgaps`.

### 4 Examples

From now on, the output of the listed codes will be put in rectangular boxes.

#### 4.1 Dashing

Here is an *example of sentence dashing*.

```
\documentclass[10pt]{article}

\usepackage[dash]{dashundergaps}

\begin{document}
\dashuline{This is a dashed sentence}
\end{document}
```

gives

This is a dashed sentence

Dotting is done in the same way.

## 4.2 Gaps with Dots – Student Version

Here is an *example* of *dotted gaps* for the student version.

```
\documentclass[10pt]{article}

\usepackage[dot, phantomtext]{dashundergaps}

\begin{document}
In Computer Science, ‘‘PC’’ means ‘‘Personal \gap{Computer}.’’

We can still \dotuline{dot this}.
\end{document}
```

results in

In Computer Science, ‘‘PC’’ means ‘‘Personal .....’’ We can still <u>dot this</u> .
--

## 4.3 With Tabular

To produce

Head A	Head B	Head C
Col 1	Col 2	Col 3
Col 1	Col 2	Col 3

just use

```
\begin{tabular}{lll}
\hline
Head A & Head B & Head C \\
\multicolumn{2}{l}{\dotuline{\hfill}} \\
Col 1 & Col 2 & Col 3 \\
Col 1 & Col 2 & Col 3 \\
\hline
\end{tabular}
```

where you want it to appear.

## 5 Implementation

Here is the code of `dashundergaps.sty`:

```
1 %% This is file 'dashundergaps.sty' v1.2 by Meriadri Luca.
2
3 \NeedsTeXFormat{LaTeX2e}
4 \ProvidesPackage{dashundergaps}[2010/20/01 Dashing and underlining (phantom) text]
5 \PackageInfo{dashundergaps}{This is DashUnderGaps by Meriadri Luca.}
6
7 \RequirePackage{ifthen}[1994/06/01]
8 \PassOptionsToPackage{normalem}{ulem}
9 \RequirePackage{ulem}
10 \newboolean{dot} % false at start
11 \newboolean{dash} % false at start
12
13
14 \DeclareOption{dash}{%
15 \typeout{Dashing mode activated!}
16 \setboolean{dash}{true}
17 \providecommand{\dashuline}{\bgroup
18 \ifdim\ULdepth=\maxdimen
19 \settodepth\ULdepth{(j)\advance\ULdepth.4pt\fi
20 \markoverwith{\kern.15em
21 \vtop{\kern\ULdepth\hrule width .3em}%
22 \kern.15em}\ULon}
23 }
24
25
26 \DeclareOption{dot}{%
27 \typeout{Dotting mode activated!}
28 \setboolean{dot}{true}
29 \providecommand{\dotuline}{\bgroup
30 \ifdim\ULdepth=\maxdimen
31 \settodepth\ULdepth{(j)\advance\ULdepth.4pt\fi
32 \markoverwith{\begingroup
33 \advance\ULdepth0.08ex
34 \lower\ULdepth\hbox{\kern.15em .\kern.1em}%
35 \endgroup}\ULon}
36 }
37
38
39 \DeclareOption{phantomtext}{%
40 \typeout{Phantom mode activated! All the gaps will be filled.}
41 \newboolean{teachernotes} % false at start
42 \newcounter{nb-gaps}
43 \setcounter{nb-gaps}{1}
44 \newcounter{nth-gaps}
45 \setcounter{nth-gaps}{1}
46
47 \def\phantom@putbox{\ifx\UL@start\@empty \else % not inner
48 \vrule\@width\z@\LA@penalty\@M
49 {\UL@skip\wd\UL@box \UL@leaders \kern-\UL@skip}%
50 \hbox to\wd\UL@box{\fi}%
51
52 \providecommand{\gap}[1]{%
53 \bgroup
54 \let\UL@putbox=\phantom@putbox
55 \ifthenelse{\boolean{teachernotes}}
56 {\textbf{#1} (\arabic{nth-gaps})}
57 {\ifthenelse{\boolean{dash} \AND \boolean{dot}}{\uline{#1}(\arabic{nth-gaps})}%
58 {\ifthenelse{\boolean{dash}}{\dashuline{#1} (\arabic{nth-gaps})}%
59 {\ifthenelse{\boolean{dot}}{\dotuline{#1} (\arabic{nth-gaps})}{\uline{#1} (\arabic{nth-gaps})}}}%
60 }
61 \addtocounter{nb-gaps}{1}
62 \addtocounter{nth-gaps}{1}
63 \egroup
64 }}
65
66
67 \DeclareOption{teachernotes}{%
68 \typeout{Phantom mode deactivated! All the gaps will be filled with their content.}
69 \setboolean{teachernotes}{true}
70 }
71
72
73 \DeclareOption{displaynbgaps}{%
74 \typeout{Gaps counting mode activated!}
75 \addtocounter{nb-gaps}{-1}
76 \AtEndDocument{\vfill \centering \bfseries GAPS: \arabic{nb-gaps}.}
77 }
78
79 \ProcessOptions\relax
```

## 6 Limitations

This package is currently not able to cope with strange users such as the ones which would

- Like to use both `\dashuline{text}` and `\dotuline{text}` and would like `\gap{text}` to appear either as `\dotuline{\phantom{text}}` or as `\dashuline{\phantom{text}}`. This is not implemented as this would be a really unuseful feature: there are not many folks who want their `\gap{text}` to be filled with something else than

```
\underline{\phantom{text}}
```

when already using `\dashuline` or `\dotuline` in the text!

## 7 Remarks

### 7.1 Dashing and Dotting Hierarchy

#### 7.1.1 Numbering

Some users would like to use a code like this:

```
...
\usepackage[dash,dot]{dashundergaps}
...
\usepackage[calcwidth,pagestyles,raggedright,bf,sf,...]{titlesec}
\titleformat{\section}{\normalfont\Huge\bfseries}{\dashuline{\thesection}}{1em}{}
\titleformat{\subsection}{\normalfont\LARGE\bfseries}{\dotuline{\thesubsection}}{1em}{}
\titleformat{\subsubsection}{\normalfont\Large\bfseries}{\thesubsubsection}{1em}{}
\titleformat{\paragraph}[runin]{\normalfont\large\bfseries\itshape}{\theparagraph}{1em}{}
\titleformat{\subparagraph}[runin]{\normalfont\normalsize\bfseries\itshape}{\thesubparagraph}{1em}{}
...
```

It is possible, and will work. For example, here, sections and subsections will have their numbering respectively dashed and dotted.

#### 7.1.2 Titles

You cannot modify

```
...
\usepackage[dash,dot]{dashundergaps}
...
\usepackage[calcwidth,pagestyles,raggedright,bf,sf,...]{titlesec}
\titleformat{\section}{\normalfont\Huge\bfseries}{\thesection}{1em}{}
\titleformat{\subsection}{\normalfont\LARGE\bfseries}{\thesubsection}{1em}{}
\titleformat{\subsubsection}{\normalfont\Large\bfseries}{\thesubsubsection}{1em}{}
\titleformat{\paragraph}[runin]{\normalfont\large\bfseries\itshape}{\theparagraph}{1em}{}
\titleformat{\subparagraph}[runin]{\normalfont\normalsize\bfseries\itshape}{\thesubparagraph}{1em}{}
...
```

to output the names of your sections, subsections, ... in a dashed or dotted fashion. For this, the temporary solution is to use, at each of the points of the hierarchy, a code like this (this is for `\section`):

```
\section{\protect\dashuline{This is the First Section}}
```

Do not forget the `\protect` please. It must be written because `\dashuline` and `\dotuline` were not declared as robust commands.

## 7.2 Ulem and the Emphasize Command

Donald Arseneau informed me in an e-mail that adding

```
\PassOptionsToPackage{normalem}{ulem}
```

before

```
\RequirePackage{ulem}
```

would be a good idea, since `\emph` is equivalent to `\underline` for `ulem` when the `normalem` option is not given to it. This has been modified, and is in `v1.1`.

## 8 Bugs

[Chronologically ordered.]

1. (20/01/2010): Thanks to [1], the first bug has been discovered: if the argument of `\gap` was too long, and that `teachernotes` was activated, the underlining was not done according to margins. It has now be solved. Many thanks to Donald Arseneau for this.

## 9 Version History

1. `v1.0`: package is introduced to the  $\text{\LaTeX}$  world,
2. `v1.1`: see 7.2,
3. `v1.2`: fixed bug 1, and the commands are now defined using `\providecommand`.

## 10 Contact

If you have any question concerning this package (limitations, bugs, ...), please contact me at [Luca.Merciadri@student.ulg.ac.be](mailto:Luca.Merciadri@student.ulg.ac.be).



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## 11 References

### References

- [1] MATHEMATEX, Souligner un phantom en pointillés avec retour à la ligne : LaTeX, 2009. <http://forum.mathematex.net/latex-f6/souligner-un-phantom-en-pointilles-avec-retour-a-la-ligne-t10057.html>.
- [2] TUG, Dashed or dotted underline, 2009. <http://ewus.de/tipp-1014.html>.