

termsim: terminal simulation package

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Abstract

The termsim is a tcolorbox-based package developed with L^AT_EX3, which provides a terminal environment and a `\termfile` macro for simulationg terminal in Win10, Mac or Ubuntu with dark, light or white color theme. The terminal environment creates terminal with it's body and the `\termfile` macro is used to read in the specified file and output it in the simulated terminal. The starred `terminal*` environment and `\termfile*` macro are also provided to simulate a terminal with comments at the bottom of terminal. All style and color theme can be setted by `\termset` macro or environment's and macro's key-value options.

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1 Introduction

termsim is an L^AT_EXpackage for simulating Win10, Mac or Ubuntu terminal with dark, light or white color theme.

^{*}<https://github.com/registor/termsim>

[†]https://gitee.com/nwafu_nan/termsim

2 Interface

2.1 terminal and terminal* environment

terminal
terminal*

New: 2021-12-17
Updated: 2021-12-17

```
\begin{terminal} [\options] {\terminal title}  
.....  
\end{terminal}  
\begin{terminal*} [\options] [\comments] {\terminal title}  
.....  
\end{terminal*}
```

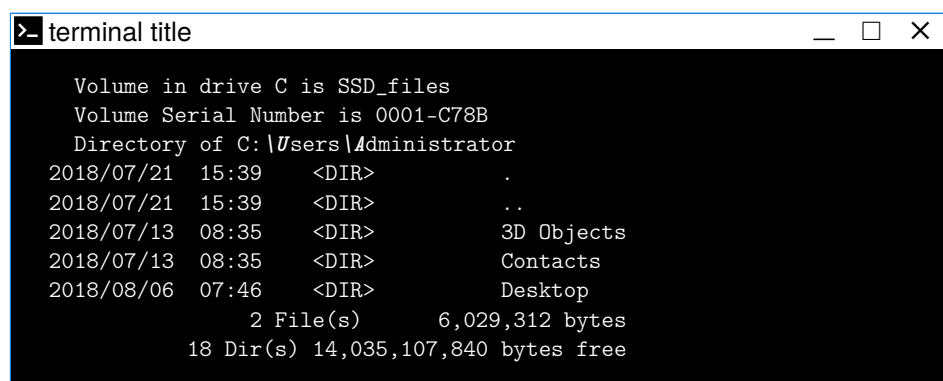
Typesetting terminal with environment body. You can set the title for the terminal by using `{\terminal title}`.

The appearance of the terminal is set by key-value in `[\options]`.

The starred environment `terminal*` is used to add comments at the bottom of terminal, note that this needs to be done with `[\comments]` after `[\options]`.

Of course the key-value `[\options]` can also be set via the comma-separated key-value list of the `\termset` macro.

```
1 \centering  
2 \termset{os=win10,theme=dark,shstretch=1.0}  
3 \bgin{terminal}{terminal title}  
4   Volume in drive C is SSD_files  
5   Volume Serial Number is 0001-C78B  
6  
7   Directory of C:\Users\Administrator  
8  
9   2018/07/21  15:39    <DIR>          .  
10  2018/07/21  15:39    <DIR>          ..  
11  2018/07/13  08:35    <DIR>          3D Objects  
12  2018/07/13  08:35    <DIR>          Contacts  
13  2018/08/06  07:46    <DIR>          Desktop  
14                      2 File(s)        6,029,312 bytes  
15                      18 Dir(s) 14,035,107,840 bytes free  
16 \end{terminal}
```



2.2 \termfile and \termfile* macro

\termfile
\termfile*

New: 2021-12-18
Updated: 2021-12-18

```
\termfile [\options] {\terminal title} {\contents file}  
\termfile* [\options] [\comments] {\terminal title} {\contentes file}
```

Typesetting terminal from a file. You can set the title for the terminal by using `{\terminal title}`.

The appearance of the terminal is set by key-value in `[\options]`.

The starred macro `termfile*` is used to add comments at the bottom of terminal, note that this needs to be done with `[\comments]` after `[\options]`.

Of course the key-value `[\options]` can also be set via the comma-separated key-value list of the `\termset` macro.

```

1 \centering
2 \termfile{terminal title}{test.bat}

```

```

>- terminal title

Volume in drive C is SSD_files
Volume Serial Number is 0001-C78B
Directory of C:\Users\Administrator
2018/07/21  15:39    <DIR>        .
2018/07/21  15:39    <DIR>        ..
2018/07/13   08:35    <DIR>        3D Objects
2018/07/13   08:35    <DIR>        Contacts
2018/08/06   07:46    <DIR>        Desktop
                2 File(s)      6,029,312 bytes
                18 Dir(s) 14,035,107,840 bytes free

```

2.3 \termset macro

\termset
New: 2021-12-18
Updated: 2021-12-18

\termset {<key-values>}

The arguments to \termset are a set of options separated by commas in the form <key> = <value>. The <value> of some options can be omitted. For the same option, subsequent settings will override previous settings.

Most options was initialized with default values.

\termset uses L^AT_EX3 style key settings, supporting different types and multiple levels of option settings. In the <key> = <value> list, the spaces around |=| do not affect anything; However, it should be noted that **no blank lines** are allowed in the list. The |= true| in the parameter <option> = true for the Boolean type can be omitted.

3 Options

The termsim package provides a number of options to set the style of the terminal. The following options can be set with \termset macro. Also, these options can be set with the terminal(terminal*) environment's or the \termfile(\termfile*) command's [<options>].

3.1 shell code engine

minted
New: 2021-12-18
Updated: 2021-12-18

minted = <true|false> Init = **true**

minted is used to set shell code engine, if it is **true** then the minted package is used, if it is **false** then the listings package is used. The default value is **true**.

3.2 os type

os
New: 2021-12-18
Updated: 2021-12-18

os = <win10|mac|ubuntu> Init = **win10**

os is used to set Operating System type. The default value is **win10**.

3.3 color theme

theme
New: 2021-12-18
Updated: 2021-12-18

theme = <dark|light|white> Init = **dark**

theme is used to set terminal color theme. The default value is **dark**.

3.4 shell code style

shstyle	<code>shstyle = {\<style>}</code>	Init = <code>bw</code>
New: 2021-12-18 Updated: 2021-12-18	<code>shstyle</code> is used to set shell code style, valid only for the <code>minted</code> engine. The default value is <code>bw</code> .	

3.5 shell code fontsize

shsize	<code>shsize = {\<fontsize>}</code>	Init = <code>\small</code>
New: 2021-12-18 Updated: 2021-12-18	<code>shsize</code> is used to set shell code fontsize, valid only for <code>minted</code> engine. The default value is <code>\small</code> .	

3.6 comment format

commentf	<code>commentf = {\<format group>}</code>	Init = <code>\small\sffamily</code>
New: 2021-12-18 Updated: 2021-12-18	<code>commentf</code> is used to set comment format at terminal bottom. The default value is <code>\small\sffamily</code> .	

3.7 shell code baseline stretch

shstretch	<code>shstretch = {\<float number>}</code>	Init = <code>1.0</code>
New: 2021-12-18 Updated: 2021-12-18	<code>shstretch</code> is used to set shell code baseline stretch, valid only for <code>minted</code> engine. The default value is <code>1.0</code> .	

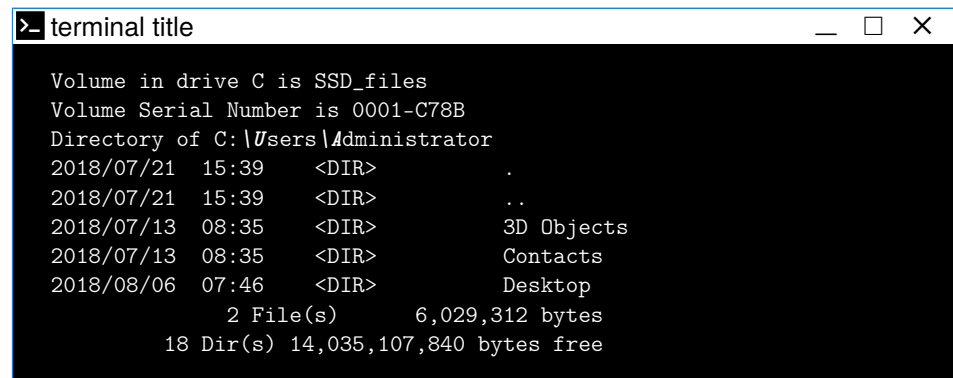
4 Examples

The `termsim` package can be used in situations where the operating system terminal window needs to be typeset to avoid the use of screenshots. Terminal windows can be with or without underline comments and can be dark, light or white color themes.

4.1 Win10 terminal

4.1.1 `terminal` or `terminal*` environment

```
1 \centering
2 \termset{os=win10,theme=dark,shstretch=1.0}
3 \begin{terminal}{terminal title}
4   Volume in drive C is SSD_files
5   Volume Serial Number is 0001-C78B
6   Directory of C:\Users\Administrator
7   2018/07/21  15:39    <DIR>          .
8   2018/07/21  15:39    <DIR>          ..
9   2018/07/13   08:35    <DIR>          3D Objects
10  2018/07/13   08:35    <DIR>          Contacts
11  2018/08/06   07:46    <DIR>          Desktop
12                      2 File(s)        6,029,312 bytes
13                      18 Dir(s) 14,035,107,840 bytes free
14 \end{terminal}
```



```
1 \centering
2 \begin{terminal*}[os=win10,theme=light][comment text]{terminal title}
3   Volume in drive C is SSD_files
4   Volume Serial Number is 0001-C78B
5   Directory of C:\Users\Administrator
6   2018/07/21  15:39    <DIR>          .
7   2018/07/21  15:39    <DIR>          ..
8   2018/07/13   08:35    <DIR>          3D Objects
9   2018/07/13   08:35    <DIR>          Contacts
10  2018/08/06   07:46    <DIR>          Desktop
11                      2 File(s)        6,029,312 bytes
12                      18 Dir(s) 14,035,107,840 bytes free
13 \end{terminal*}
```

```

terminal title

Volume in drive C is SSD_files
Volume Serial Number is 0001-C78B
Directory of C:\Users\Administrator
2018/07/21  15:39    <DIR>        .
2018/07/21  15:39    <DIR>        ..
2018/07/13  08:35    <DIR>        3D Objects
2018/07/13  08:35    <DIR>        Contacts
2018/08/06  07:46    <DIR>        Desktop
                2 File(s)          6,029,312 bytes
                18 Dir(s) 14,035,107,840 bytes free

comment text

```

4.1.2 \termfile or \termfile* macro

```

1 \centering
2 \termset{os=win10,theme=dark}
3 \termfile{terminal title}{test.bat}

```

```

terminal title

Volume in drive C is SSD_files
Volume Serial Number is 0001-C78B
Directory of C:\Users\Administrator
2018/07/21  15:39    <DIR>        .
2018/07/21  15:39    <DIR>        ..
2018/07/13  08:35    <DIR>        3D Objects
2018/07/13  08:35    <DIR>        Contacts
2018/08/06  07:46    <DIR>        Desktop
                2 File(s)          6,029,312 bytes
                18 Dir(s) 14,035,107,840 bytes free

```

```

1 \centering
2 \termfile*[os=win10,theme=light][comment text]{terminal title}{test.bat}

```

```

terminal title

Volume in drive C is SSD_files
Volume Serial Number is 0001-C78B
Directory of C:\Users\Administrator
2018/07/21  15:39    <DIR>        .
2018/07/21  15:39    <DIR>        ..
2018/07/13  08:35    <DIR>        3D Objects
2018/07/13  08:35    <DIR>        Contacts
2018/08/06  07:46    <DIR>        Desktop
                2 File(s)          6,029,312 bytes
                18 Dir(s) 14,035,107,840 bytes free

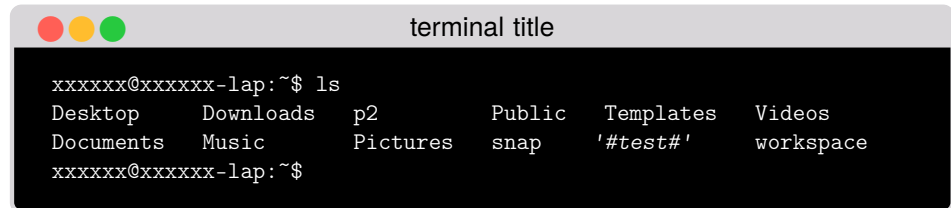
comment text

```

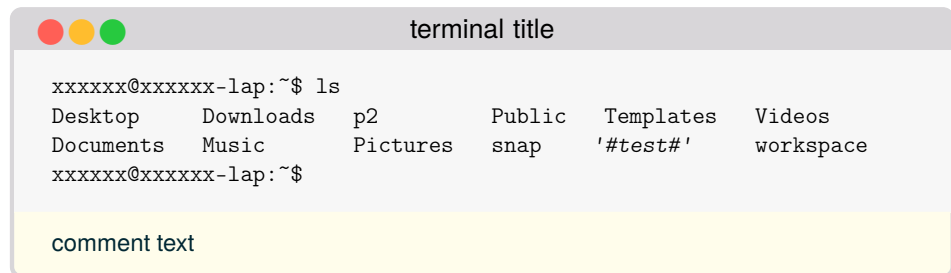
4.2 Mac terminal

4.2.1 terminal or terminal* environment

```
1 \centering
2 \termset{os=mac,theme=dark}
3 \begin{terminal}{terminal title}
4   xxxxxx@xxxxxxx-lap:~$ ls
5   Desktop    Downloads  p2        Public    Templates  Videos
6   Documents  Music     Pictures  snap     '#test#'   workspace
7   xxxxxx@xxxxxxx-lap:~$
8 \end{terminal}
```

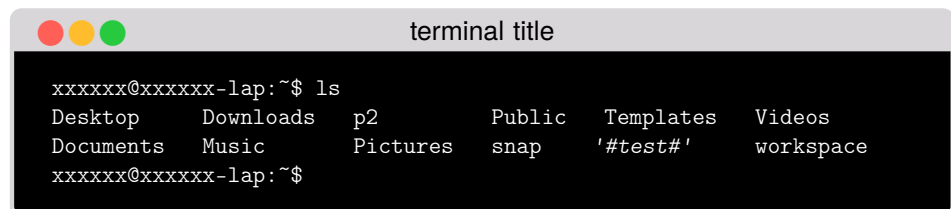


```
1 \centering
2 \begin{terminal*}[os=mac,theme=light][comment text]{terminal title}
3   xxxxxx@xxxxxxx-lap:~$ ls
4   Desktop    Downloads  p2        Public    Templates  Videos
5   Documents  Music     Pictures  snap     '#test#'   workspace
6   xxxxxx@xxxxxxx-lap:~$
7 \end{terminal*}
```



4.2.2 \termfile or \termfile* macro

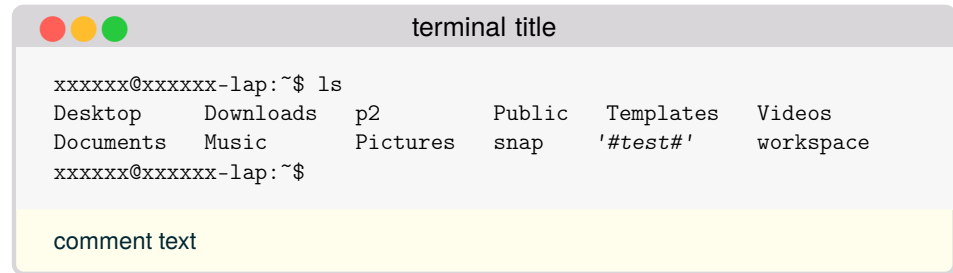
```
1 \centering
2 \termset{os=mac,theme=dark}
3 \termfile{terminal title}{testls}
```



```

1 \centering
2 \termfile*[os=mac,theme=light][comment text]{terminal title}{testls}

```



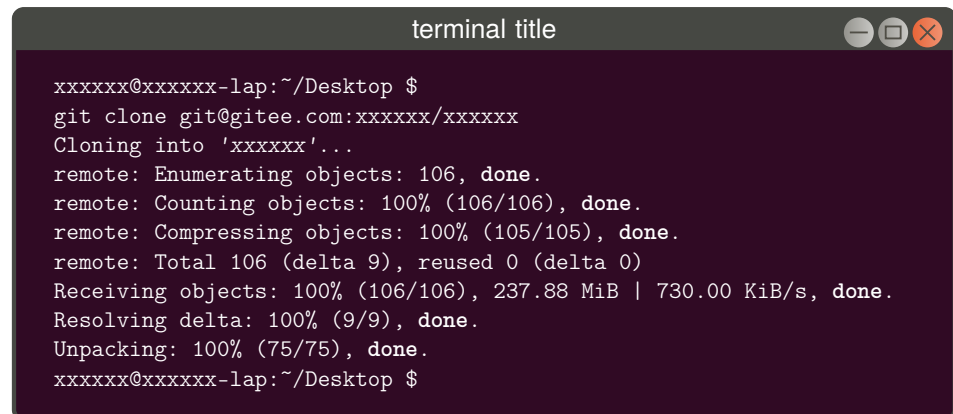
4.3 Ubuntu terminal

4.3.1 terminal or terminal* environment

```

1 \centering
2 \termset{os=ubuntu,theme=dark}
3 \begin{terminal}{terminal title}
4   xxxxxx@xxxxxxx-lap:~/Desktop $
5   git clone git@gitee.com:xxxxxx/xxxxxx
6   Cloning into 'xxxxxx'...
7   remote: Enumerating objects: 106, done.
8   remote: Counting objects: 100% (106/106), done.
9   remote: Compressing objects: 100% (105/105), done.
10  remote: Total 106 (delta 9), reused 0 (delta 0)
11  Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
12  Resolving delta: 100% (9/9), done.
13  Unpacking: 100% (75/75), done.
14  xxxxxx@xxxxxxx-lap:~/Desktop $
15 \end{terminal}

```



```

1 \centering
2 \begin{terminal*}[os=ubuntu,theme=light][comment text]{terminal title}
3   xxxxxx@xxxxxxx-lap:~/Desktop $
4   git clone git@gitee.com:xxxxxx/xxxxxx
5   Cloning into 'xxxxxx'...
6   remote: Enumerating objects: 106, done.
7   remote: Counting objects: 100% (106/106), done.
8   remote: Compressing objects: 100% (105/105), done.
9   remote: Total 106 (delta 9), reused 0 (delta 0)
10  Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
11  Resolving delta: 100% (9/9), done.
12  Unpacking: 100% (75/75), done.
13  xxxxxx@xxxxxxx-lap:~/Desktop $
14 \end{terminal*}

```



```

xxxxxx@xxxxxx-lap:~/Desktop $
git clone git@gitee.com:xxxxxx/xxxxxx
Cloning into 'xxxxxx'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (106/106), done.
remote: Compressing objects: 100% (105/105), done.
remote: Total 106 (delta 9), reused 0 (delta 0)
Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
Resolving delta: 100% (9/9), done.
Unpacking: 100% (75/75), done.
xxxxxx@xxxxxx-lap:~/Desktop $

```

comment text

4.3.2 \termfile or \termfile* macro

```

1 \centering
2 \termset{os=ubuntu,theme=dark}
3 \termfile{terminal title}{testsh}

```

```

xxxxxx@xxxxxx-lap:~/Desktop $
git clone git@gitee.com:xxxxxx/xxxxxx
Cloning into 'xxxxxx'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (106/106), done.
remote: Compressing objects: 100% (105/105), done.
remote: Total 106 (delta 9), reused 0 (delta 0)
Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
Resolving delta: 100% (9/9), done.
Unpacking: 100% (75/75), done.
xxxxxx@xxxxxx-lap:~/Desktop $

```

```

1 \centering
2 \termfile*[os=ubuntu,theme=light][comment text]{terminal title}{testsh}

```

```

xxxxxx@xxxxxx-lap:~/Desktop $
git clone git@gitee.com:xxxxxx/xxxxxx
Cloning into 'xxxxxx'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (106/106), done.
remote: Compressing objects: 100% (105/105), done.
remote: Total 106 (delta 9), reused 0 (delta 0)
Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
Resolving delta: 100% (9/9), done.
Unpacking: 100% (75/75), done.
xxxxxx@xxxxxx-lap:~/Desktop $

```

comment text

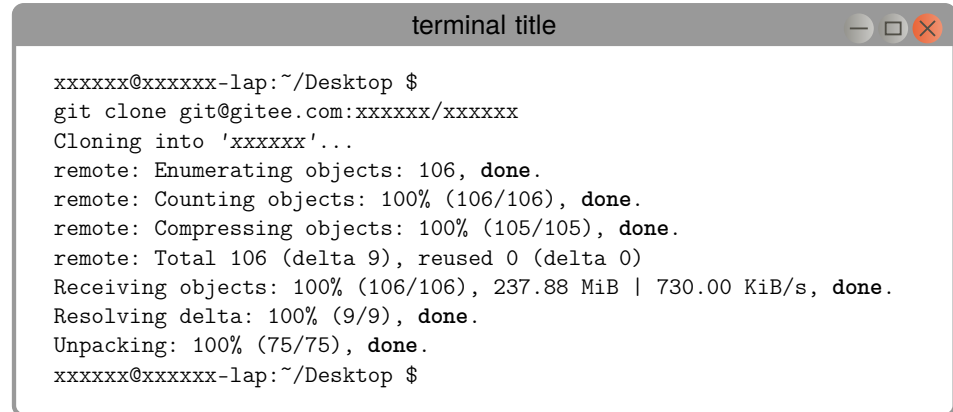
You can also use the white color theme and use black text on a white background for print on paper.

```

1 \centering
2 \termset{os=ubuntu,theme=white}
3 \begin{terminal}{terminal title}
4   xxxxx@xxxxxx-lap:~/Desktop $
5   git clone git@gitee.com:xxxxxx/xxxxxx

```

```
6 Cloning into 'xxxxxx'...
7 remote: Enumerating objects: 106, done.
8 remote: Counting objects: 100% (106/106), done.
9 remote: Compressing objects: 100% (105/105), done.
10 remote: Total 106 (delta 9), reused 0 (delta 0)
11 Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
12 Resolving delta: 100% (9/9), done.
13 Unpacking: 100% (75/75), done.
14 xxxxxx@xxxxxx-lap:~/Desktop $
15 \end{terminal}
```

A terminal window with a title bar that says "terminal title". The window contains the following text:

```
xxxxxx@xxxxxx-lap:~/Desktop $
git clone git@gitee.com:xxxxxx/xxxxxx
Cloning into 'xxxxxx'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (106/106), done.
remote: Compressing objects: 100% (105/105), done.
remote: Total 106 (delta 9), reused 0 (delta 0)
Receiving objects: 100% (106/106), 237.88 MiB | 730.00 KiB/s, done.
Resolving delta: 100% (9/9), done.
Unpacking: 100% (75/75), done.
xxxxxx@xxxxxx-lap:~/Desktop $
```