

# Redraw screen in terminal

Asked 16 years, 3 months ago   Modified 13 years, 6 months ago

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9



How do some programs edit whats being displayed on the terminal (to pick a random example, the program 'sl')? I'm thinking of the Linux terminal here, it may happen in other OS's too, I don't know. I've always thought once some text was displayed, it stayed there. How do you change it without redrawing the entire screen?

linux

terminal

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edited Jun 15, 2011 at 22:54



[mindless.panda](#)

4,082 ● 4 ● 36 ● 58

asked Sep 16, 2008 at 22:34



[Jarek](#)

1,330 ● 3 ● 11 ● 19

9 Answers

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6

Depending on the terminal you send control sequences. Common sequences are for example `esc[;H` to send the cursor to a specific position (e.g. on Ansi, Xterm, Linux,



VT100). However, this will vary with the type or terminal the user has ... curses (in conjunction with the terminfo files) will wrap that information for you.



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[Yamodax](#)

431 ● 3 ● 5



Many applications make use of the [curses](#) library, or some language binding to it.

5



For rewriting on a single line, such as updating progress information, the special character "[carriage return](#)", often specified by the escape sequence "\r", can return the cursor to the start of the current line allowing subsequent output to overwrite what was previously written there.



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answered Sep 16, 2008 at 22:41

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[Mike Tunncliffe](#)

10.8k ● 3 ● 33 ● 46



try this shellscript

5



```
#!/bin/bash
i=1
while [ true ]
do
    echo -e -n "\r $i"
    i=$((i+1))
done
```



the -n options prevents the newline ... and the \r does the carriage return ... you write again and again into the same line - no scroling or what so ever

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answered Sep 16, 2008 at 22:40

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mana

6,537 ● 6 ● 52 ● 71



4



If you terminate a line sent to the terminal with a carriage return ('\r') instead of a linefeed ('\n'), it will move the cursor to the beginning of the current line, allowing the program to print more text over top of what it printed before. I use this occasionally for progress messages for long tasks.



If you ever need to do more terminal editing than that, use [ncurses](#) or a variant thereof.

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answered Sep 16, 2008 at 22:37

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deemer

1,144 ● 8 ● 10



2



There are characters that can be sent to the terminal that move the cursor back. Then text can be overwritten.

There is a list [here](#). Note the "move cursor something" lines.



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answered Sep 16, 2008 at 22:35

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Sarien

6,932 ● 6 ● 38 ● 56

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Now I understand why viewing binary files in `cat` or `less` would break my terminal... it would always change the character set and I had to restart, haha. – [krs013](#) Mar 22, 2014 at 5:23

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1

NCurses is a cross-platform library that lets you draw user interfaces on smart terminals.

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answered Sep 16, 2008 at 22:41



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Jacob Krall

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1

Corporal Touchy has answered how this is done at the lowest level. For easier development the [curses library](#) gives a higher level of control than simply sending characters to the terminal.



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edited Sep 17, 2008 at 9:39



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answered Sep 16, 2008 at 22:40



danio

8,655 ● 6 ● 49 ● 57

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To build on @Corporal Touchy's answer, there are libraries available that will handle some of this functionality for you such as [curses/ncurses](#)



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answered Sep 16, 2008 at 22:38



[pix0r](#)

31.3k ● 18 ● 87 ● 102



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I agree with danio, ncurses is the way to go. Here's a good tutorial:

<http://tldp.org/HOWTO/NCURSES-Programming-HOWTO/>



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answered Sep 16, 2008 at 22:44



[Adam Pierce](#)

34.3k ● 23 ● 71 ● 89

