MiniTutor: Shell Colors and Cursor Positions

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You can use characters to modify texts and how they are displayed, and also for fun you can draw, create animations, statusbar, progressbar and more.

These commands can be called as escape sequencies because all they use ASCII's ESC (033). They must be send directly to the terminal and you can use 'print', 'printf' or 'echo'. The sequencies use ESC to defiy colors and cursos position, they begin with an 'ESC' followed by a '[', and close with a 'm'. In the middle we must add numbers separeted by ';'.

First, we show how to use these commands and sequencies to change default colors displayed by shell. The command format is 'ESC[n1;n2;...m', it means, after the begin '033[' (ESC[) and before the end 'm', we have all numeric instructions. The default is '0' if any number are written, and those numbers indicate text color, background color and video atributes or codes. Those atributes can change text form and how the colors is going to be showed.

The list of text colors is: 30 (black/gray), 31 (red), 32 (green), 33 (brown/yellow), 34 (blue), 35 (purple), 36 (cyan) and 37 (gray/white). The list of background colors is: 40 (black/gray), 41 (red), 42 (green), 43 (brown/yellow), 44 (blue), 45 (purple), 46 (cyan) and 47 (gray/white). The atributes are: 0 (default), 1 (bold), 5 (blinking) and 7 (reverse background and color). There are some differences between colors above as you can see, for example 43 is used to display a brown color, but if you enable bold text the color turnes to yellow.

The number are read following this sequence: background, text color and atributes, for example '40,32,1,5' means black background, green color, bold text and blinking.

You must not forget to enable interpretation of backslash escapes, '-e' option, while using 'echo, for example: echo -e '\033[41m TESTING \033[m'.

Test example: echo -e '\033[40;33;1m Welcome to \033[40;31;1m GoblinX\033[40;33;1mNewsletter \033[m'.

Second, after learn how to change colors, we show how to change the text position. The command to set where display a text is 'ESC[. The common list is: ESC[nA (n lines up and same column), ESC[nB (n lines down, same column), ESC[nC (n columns to the right, same line), ESC[nD (n columns to the left, same line), ESC[nE (n lines down in column 1), ESC[nF (n lines up, column 1), ESC[nG (go to n column, current line) and ESC[n;mH (go to column m and line n).

An example: echo -e '\033c\033[4;7HSaturday\033[AMonday\033[2B\033[DWednesday'

In the above line, '\033c' cleans the screen, '\033[4;7HSaturday' writes Saturday at line 4 column 7, '\033[AMonday' moves the cursos up one line and writes Monday, '\033[2B' moves the cursor two lines down in the same column, and '\033[DWednesday' goes back one column in the same line and writes Wednesday.

There are also more commands to move the cursor before write a text and also others to clear texts and move the screen. The list is: ESC[nJ (n=0, clear until the end of the screen, n=1, clear until the begin of the screen, n=2, clear all screen) ESC[nK (n=0, clear until the end of the line, n=1, clear until the begin of the line, n=2, clear all line), ESC[nM (clear n lines below), ESC[nP (clear n characters in the right side), ESC[nX (clear n characters in the left side and write spaces instead), ESC[n@ (insert n blank spaces), ESC[nL (insert n blank lines), ESC[nS (move the screen n linhas up) and ESC[nT (move the screen n linhas down).

Test example: echo -e '\033c \033[40;33;1m Welcome to \033[4;7H \033[40;31;1m GoblinX\033[1C \033[40;33;1mNewsletter \033[m'

Another example, a counter:
for i in 1 2 3 4 5 6 7 8 9; do echo -ne "\033c \033[G\033[@Counted =\033[11G\033[0K$i"; sleep 1; done; echo

Your shell scripts can inform and also be funny, you just need to let your imagination flyes. This minitutor is heavly inspired by an article in the book 'Programação Shell Linux' written by Julio Cesar Neves.

Minitutor from: GoblinX Minitutors

Linux
