

# Linux commands - CB.EN.U4CSE19038

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☰ Roll number:	CB.EN.U4CSE19038

1) List all the directories only using echo command



```
nirmalk@nimmyOS-arch:~  
nirmalk@nimmyOS-arch ~$ echo ls  
ls  
nirmalk@nimmyOS-arch ~$ echo | ls  
Android      Sem4Code      java_error_in_idea_4465.log  
CleanDmenu   Sherlock      java_error_in_idea_5047.log  
Desktop      SoftMaker     nord-gnome-terminal  
Documents    Templates     picom  
Dotfiles     Videos       rsc  
Downloads    'VirtualBox VMs' things  
IdeaProjects assets         trial  
Music        color-scripts verilogtrial  
Pictures     java_error_in_idea_163817.log verilogtrial.v  
Public       java_error_in_idea_164051.log verilogtrial_tb.v  
nirmalk@nimmyOS-arch ~$ man echo  
nirmalk@nimmyOS-arch ~$ echo *  
Android CleanDmenu Desktop Documents Dotfiles Downloads IdeaProjects Music Pictu  
res Public Sem4Code Sherlock SoftMaker Templates Videos VirtualBox VMs assets co  
lor-scripts java_error_in_idea_163817.log java_error_in_idea_164051.log java_err  
or_in_idea_4465.log java_error_in_idea_5047.log nord-gnome-terminal picom rsc th  
ings trial verilogtrial verilogtrial.v verilogtrial_tb.v  
nirmalk@nimmyOS-arch ~$
```

2) List the calendar of September 1752 and explore.

```
nirmalk@nimmyOS-arch:~
nirmalk@nimmyOS-arch ~$ man cal
nirmalk@nimmyOS-arch ~$ cal september 1752
September 1752
Su Mo Tu We Th Fr Sa
      1  2 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

nirmalk@nimmyOS-arch ~$ man cal
nirmalk@nimmyOS-arch ~$ cal september 1752 -v
September 1752
Su   17 24
Mo   18 25
Tu   1 19 26
We   2 20 27
Th  14 21 28
Fr  15 22 29
Sa  16 23 30

nirmalk@nimmyOS-arch ~$ man cal
nirmalk@nimmyOS-arch ~$ cal september 1752 --color
September 1752
Su Mo Tu We Th Fr Sa
      1  2 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

nirmalk@nimmyOS-arch ~$ man cal
nirmalk@nimmyOS-arch ~$
```

3) Display the time of the day

```
nirmalk@nimmyOS-arch:~  
nirmalk@nimmyOS-arch ~$ date  
Mon Jan 18 02:26:22 PM IST 2021  
nirmalk@nimmyOS-arch ~$ man date  
nirmalk@nimmyOS-arch ~$ date %T  
date: invalid date '%T'  
X nirmalk@nimmyOS-arch ~$ date +%H:%M:%S  
14:29:17  
nirmalk@nimmyOS-arch ~$ _
```

- 4) Create a directory by your rollno e.g cse601
- 5) Move the files to appropriate directory

```
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch:~/Sem4Code/Linux > mkdir cse038
nirmalk@nimmyOS-arch:~/Sem4Code/Linux > cd cse038
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > mkdir Singleuser
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > mkdir Multiuser
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > mkdir MobileOS
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > touch Singleuser/Android.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > touch Singleuser/ios.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > touch Multiuser/dos.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > touch MobileOS/linux.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038 > _
```

6) List all the directories and files in directory with name as your rollno

```
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038$ du
0      ./Singleuser
0      ./Multiuser
0      ./MobileOS
0      .
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038$ man du
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038$ du --all
0      ./Singleuser/Android.txt
0      ./Singleuser/ios.txt
0      ./Singleuser
0      ./Multiuser/dos.txt
0      ./Multiuser
0      ./MobileOS/linux.txt
0      ./MobileOS
0      .
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038$
```

7) List the size of all files (hidden files also) and folders in desired scale format, directories should not be displayed.



NOTE: The command still displays the subdirectory names.

```
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038$ man ls
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038$ ls -R
.:
MobileOS  Multiuser  Singleuser

./MobileOS:
linux.txt

./Multiuser:
dos.txt

./Singleuser:
Android.txt  ios.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038$ ls -Rsa
.:
total 0
0 . 0 .. 0 MobileOS 0 Multiuser 0 Singleuser

./MobileOS:
total 0
0 . 0 .. 0 linux.txt

./Multiuser:
total 0
0 . 0 .. 0 dos.txt

./Singleuser:
total 0
0 . 0 .. 0 Android.txt 0 ios.txt
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038$
```

8) Change the permissions of the file DOS.txt give read and write permissions to user and group

```
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch ~$ cd Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch ~$ ls
MobileOS  Multiuser  Singleuser
nirmalk@nimmyOS-arch ~$ chmod ug+rw Multiuser/DOS.txt
chmod: cannot access 'Multiuser/DOS.txt': No such file or directory
nirmalk@nimmyOS-arch ~$ chmod ug+rw Multiuser/dos.txt
nirmalk@nimmyOS-arch ~$
```

9) List all the environment variables and display PATH

```
nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038 > main ++ echo $PATH
/home/nirmalk/.local/bin:/usr/local/bin:/usr/bin:/bin:/usr/local/sbin:/usr/lib/jvm/default/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038 > main ++ env
SSH_AUTH_SOCK=/run/user/1000/keyring/ssh
SESSION_MANAGER=local/nimmyOS-arch:@/tmp/.ICE-unix/715,unix/nimmyOS-arch:/tmp/.ICE-unix/715
GNOME_TERMINAL_SCREEN=/org/gnome/Terminal/screen/4acecaf9_b890_4517_bfa0_2d4cb7e6d9ec
LANG=en_US.UTF-8
XDG_CURRENT_DESKTOP=GNOME
PWD=/home/nirmalk/Sem4Code/Linux/cse038
HG=/usr/bin/hg
XDG_GREETER_DATA_DIR=/var/lib/lightdm-data/nirmalk
USER=nirmalk
HOME=/home/nirmalk
XDG_MENU_PREFIX=gnome-
XDG_SESSION_PATH=/org/freedesktop/DisplayManager/Session0
DESKTOP_SESSION=gnome
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
VTE_VERSION=6202
XDG_SESSION_DESKTOP=gnome
MAIL=/var/spool/mail/nirmalk
LOGNAME=nirmalk
XDG_SEAT_PATH=/org/freedesktop/DisplayManager/Seat0
GNOME_TERMINAL_SERVICE=:1.498
PATH=/home/nirmalk/.local/bin:/usr/local/bin:/usr/bin:/bin:/usr/local/sbin:/usr/lib/jvm/default/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl
XDG_RUNTIME_DIR=/run/user/1000
SHELL=/usr/bin/zsh
XDG_SESSION_TYPE=x11
MOTD_SHOWN=pam
LC_COLLATE=C
SHLVL=1
XAUTHORITY=/home/nirmalk/.Xauthority
COLORTERM=truecolor
DISPLAY=:0
TERM=xterm-256color
```

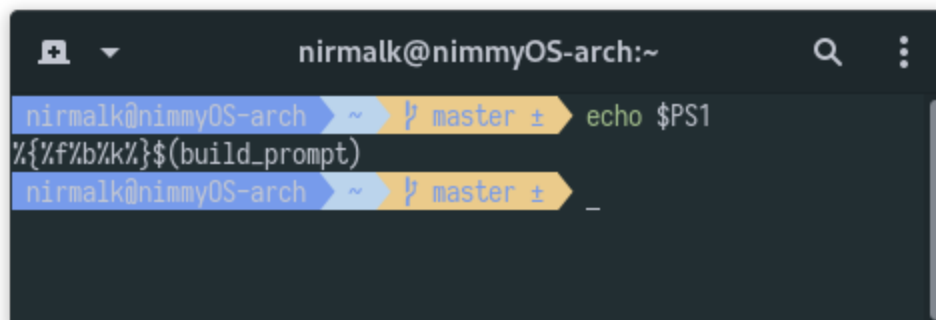
PATH:



A terminal window with a dark background. The title bar shows 'nirmalk@nimmyOS-arch:~/Sem4Code/Linux/cse038'. The prompt is 'nirmalk@nimmyOS-arch'. The user has entered '~ / Sem4Code/Linux/cse038' and then 'main ±+'. The command 'env | grep "PATH"' has been executed, displaying the following output: 'XDG\_SESSION\_PATH=/org/freedesktop/DisplayManager/Session0', 'XDG\_SEAT\_PATH=/org/freedesktop/DisplayManager/Seat0', and 'PATH=/home/nirmalk/.local/bin:/usr/local/bin:/usr/bin:/bin:/usr/local/sbin:/usr/lib/jvm/default/bin:/usr/bin/site\_perl:/usr/bin/vendor\_perl:/usr/bin/core\_perl'. The prompt is now 'nirmalk@nimmyOS-arch' followed by '~ / Sem4Code/Linux/cse038' and 'main ±+'.

```
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038 main ±+ env | grep "PATH"
XDG_SESSION_PATH=/org/freedesktop/DisplayManager/Session0
XDG_SEAT_PATH=/org/freedesktop/DisplayManager/Seat0
PATH=/home/nirmalk/.local/bin:/usr/local/bin:/usr/bin:/bin:/usr/local/sbin:/usr/lib/jvm/default
/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl
nirmalk@nimmyOS-arch ~/Sem4Code/Linux/cse038 main ±+ _
```

10) Change the prompt. And change it back to original prompt.

A terminal window with a dark background. The title bar shows 'nirmalk@nimmyOS-arch:~'. The prompt is 'nirmalk@nimmyOS-arch'. The user has entered '~' and then 'master ±+'. The command 'echo \$PS1' has been executed, displaying the output: '%{f%b%k%}\$\$(build\_prompt)'. The prompt is now 'nirmalk@nimmyOS-arch' followed by '~' and 'master ±+'.

```
nirmalk@nimmyOS-arch ~ master ±+ echo $PS1
%{f%b%k%}$$(build_prompt)
nirmalk@nimmyOS-arch ~ master ±+ _
```

11) Copy the file /etc/passwd into your home directory.

```
nirmalk@nimmyOS-arch:~  
nirmalk@nimmyOS-arch ~$ cp /etc/passwd ~  
nirmalk@nimmyOS-arch ~$ cd ~  
nirmalk@nimmyOS-arch ~$ tail passwd  
cups:x:209:209:cups helper user:/:usr/bin/nologin  
nvidia-persistenced:x:143:143:NVIDIA Persistence Daemon:/:usr/bin/nologin  
colord:x:973:973:Color management daemon:/var/lib/colord:/usr/bin/nologin  
lightdm:x:972:972:Light Display Manager:/var/lib/lightdm:/usr/bin/nologin  
nirmalk:x:1000:985:~/home/nirmalk:/usr/bin/zsh  
mpd:x:45:45:/:var/lib/mpd:/usr/bin/nologin  
geoclue:x:969:969:Geoinformation service:/var/lib/geoclue:/usr/bin/nologin  
usbmux:x:140:140:usbmux user:/:usr/bin/nologin  
mysql:x:968:968:MariaDB:/var/lib/mysql:/usr/bin/nologin  
tor:x:43:43:/:var/lib/tor:/usr/bin/nologin  
nirmalk@nimmyOS-arch ~$
```

12) List the usernames and home directory from /etc/passwd in sorted order

```
nirmalk@nimmyOS-arch:~  
nirmalk@nimmyOS-arch ~ master ± cat /etc/passwd | awk -F: '{print $1 " " " $6}' | sort  
aurbuilder /tmp/aurbuilder  
avahi /  
bin /  
colord /var/lib/colord  
cups /  
daemon /  
dbus /  
dhcpcd /  
ftp /srv/ftp  
geoclue /var/lib/geoclue  
git /  
http /srv/http  
lightdm /var/lib/lightdm  
mail /var/spool/mail  
mpd /var/lib/mpd  
mysql /var/lib/mysql  
named /  
nirmalk /home/nirmalk  
nobody /  
nvidia-persistenced /  
polkitd /  
root /root  
rtkit /proc  
systemd-coredump /  
systemd-journal-remote /  
systemd-network /  
systemd-resolve /  
systemd-timesync /  
tor /var/lib/tor  
usbmux /  
uuid /  
nirmalk@nimmyOS-arch ~ master ±
```