

1. Using vi write your CV in the file mycv. Your CV should include your name, age, school, college, experience, ..

```
gamal@gamal-virtual-machine:~/Desktop$ vi mycv.  
gamal@gamal-virtual-machine:~/Desktop$
```

```
gamal@gamal-virtual-machine: ~/Desktop  
Gamal Sobhy Gamal Thabet  
age = 37  
school : Rolan Language School  
college: faculty of engineering Alex university  
experience : worked for Amazon USA
```

2. Open mycv file using vi command then: Without using arrows state how to:

a. Move the cursor down one line at time.

by using "o"

b. Move the cursor up one line at time.

by using "O"

c. Search for word age

by using "/age"

d. Step to line 5 (assuming that you are in line 1 and file is more than 5 lines).

by using "5G"

e. Delete the line you are on and line 5.

by using "DD ,5d"

f. How to step to the end of line and change to writing mode in one-step.

by using "e"

3. List the available shells in your system.

Global initialization files

/etc/profile

Intilization files

~/.profile

/etc/bash.bashrc

~/.bash_profile or *~/.bash_login*

startup files

~/.bashrc

4. List the environment variables in your current shell.

\$HOME

\$path

\$PWD

\$SHELL

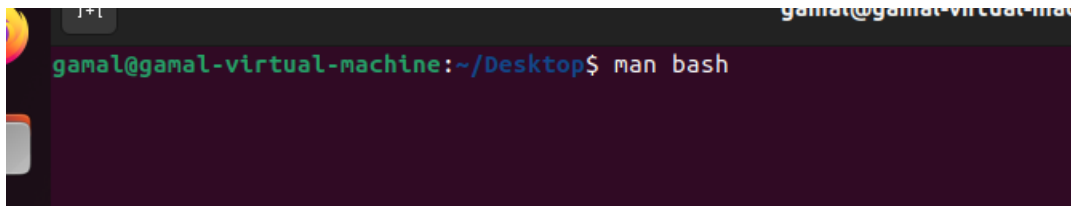
\$USER

\$HOSTNAME

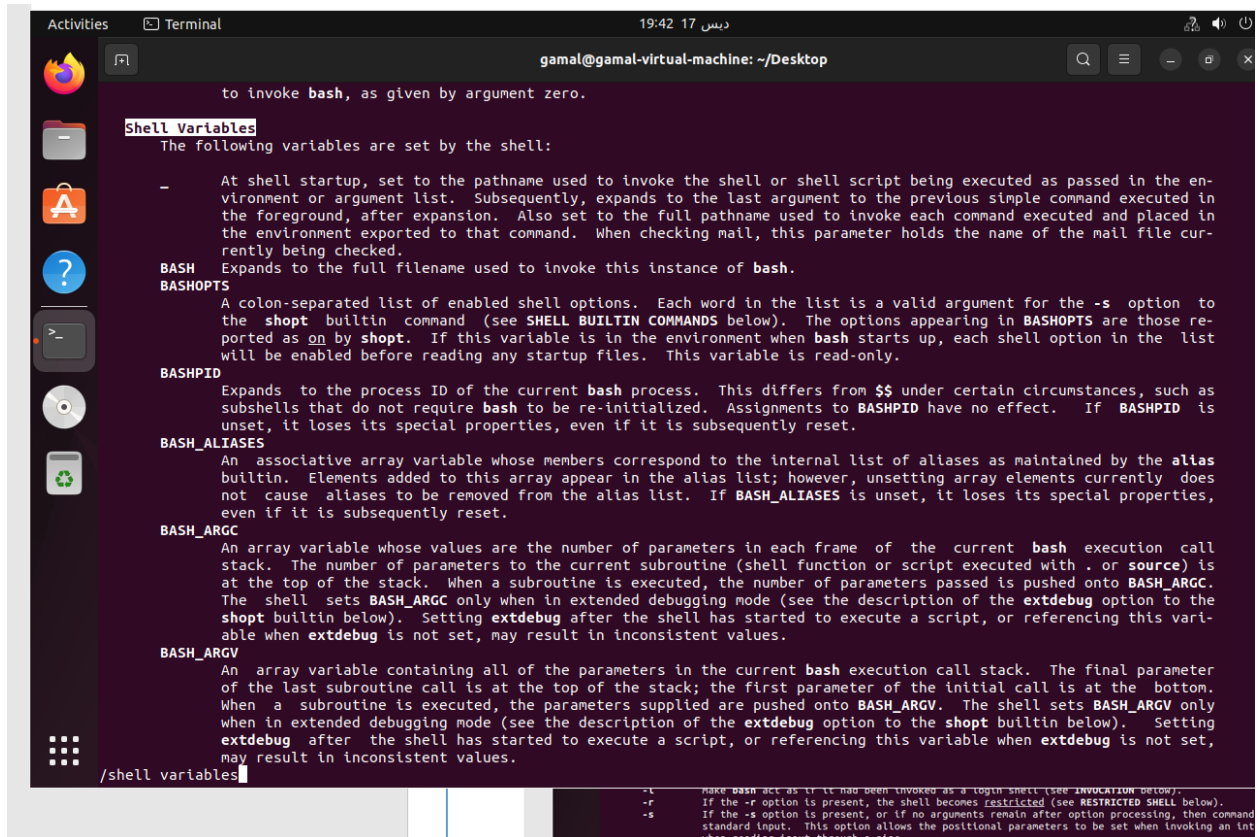
5. List all of the environment variables for the bash shell.

USE THE COMMAND

MAN BASH

A terminal window with a dark background. The prompt is 'gamal@gamal-virtual-machine:~/Desktop\$'. The command 'man bash' has been entered. The terminal title bar shows 'gamal@gamal-virtual-machine' and '1+1'.

/shell variables



The image shows a terminal window titled "Terminal" with the user "gamal" at "gamal-virtual-machine: ~/Desktop". The terminal displays the output of the command `/shell variables`. The output is as follows:

```
to invoke bash, as given by argument zero.

Shell Variables
The following variables are set by the shell:

- At shell startup, set to the pathname used to invoke the shell or shell script being executed as passed in the environment or argument list. Subsequently, expands to the last argument to the previous simple command executed in the foreground, after expansion. Also set to the full pathname used to invoke each command executed and placed in the environment exported to that command. When checking mail, this parameter holds the name of the mail file currently being checked.
BASH Expands to the full filename used to invoke this instance of bash.
BASHOPTS A colon-separated list of enabled shell options. Each word in the list is a valid argument for the -s option to the shopt builtin command (see SHELL BUILTIN COMMANDS below). The options appearing in BASHOPTS are those reported as on by shopt. If this variable is in the environment when bash starts up, each shell option in the list will be enabled before reading any startup files. This variable is read-only.
BASHPID Expands to the process ID of the current bash process. This differs from $$ under certain circumstances, such as subshells that do not require bash to be re-initialized. Assignments to BASHPID have no effect. If BASHPID is unset, it loses its special properties, even if it is subsequently reset.
BASH_ALIASES An associative array variable whose members correspond to the internal list of aliases as maintained by the alias builtin. Elements added to this array appear in the alias list; however, unsetting array elements currently does not cause aliases to be removed from the alias list. If BASH_ALIASES is unset, it loses its special properties, even if it is subsequently reset.
BASH_ARGC An array variable whose values are the number of parameters in each frame of the current bash execution call stack. The number of parameters to the current subroutine (shell function or script executed with . or source) is at the top of the stack. When a subroutine is executed, the number of parameters passed is pushed onto BASH_ARGC. The shell sets BASH_ARGC only when in extended debugging mode (see the description of the extdebug option to the shopt builtin below). Setting extdebug after the shell has started to execute a script, or referencing this variable when extdebug is not set, may result in inconsistent values.
BASH_ARGV An array variable containing all of the parameters in the current bash execution call stack. The final parameter of the last subroutine call is at the top of the stack; the first parameter of the initial call is at the bottom. When a subroutine is executed, the parameters supplied are pushed onto BASH_ARGV. The shell sets BASH_ARGV only when in extended debugging mode (see the description of the extdebug option to the shopt builtin below). Setting extdebug after the shell has started to execute a script, or referencing this variable when extdebug is not set, may result in inconsistent values.

--l Make bash act as if it had been invoked as a login shell (see INVOLUZION below).
-r If the -r option is present, the shell becomes restricted (see RESTRICTED SHELL below).
-s If the -s option is present, or if no arguments remain after option processing, then command standard input. This option allows the positional parameters to be set when invoking an int when reading input through a pipe.
```

6-What are the commands that list the value of a specific variable?

1-set

```

gamal@gamal-virtual-machine:~/Desktop$ set
BASH=/usr/bin/bash
BASHOPTS=checkwinsize:cmdhist:complete_fullquote:expand_aliases:extglob:extquote:force_ignorespace:globasciirange_comments:progcomp:promptvars:sourcepath
BASH_ALIASES=()
BASH_ARGC=([0]="0")
BASH_ARGV=()
BASH_CMDS=()
BASH_COMPLETION_VERSION=([0]="2" [1]="11")
BASH_LINENO=()
BASH_SOURCE=()
BASH_VERSION=([0]="5" [1]="1" [2]="16" [3]="1" [4]="release" [5]="x86_64-pc-linux-gnu")
BASH_VERSION='5.1.16(1)-release'
COLORTERM=truecolor
COLUMNS=132
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
DESKTOP_SESSION=ubuntu
DIRSTACK=()
DISPLAY=:0
EUID=1000
GDMSESSION=ubuntu
GNOME_DESKTOP_SESSION_ID=this-is-deprecated
GNOME_SETUP_DISPLAY=:1
GNOME_SHELL_SESSION_MODE=ubuntu
GNOME_TERMINAL_SCREEN=/org/gnome/Terminal/screen/83fc103c_0e92_491c_95f0_342c780175d0
GNOME_TERMINAL_SERVICE=:1.102
GROUPS=()
GTK_MODULES=gail:atk-bridge
HISTCONTROL=ignoreboth
HISTFILE=/home/gamal/.bash_history
HISTFILESIZE=2000
HISTSIZE=1000
HOME=/home/gamal
HOSTNAME=gamal-virtual-machine

```

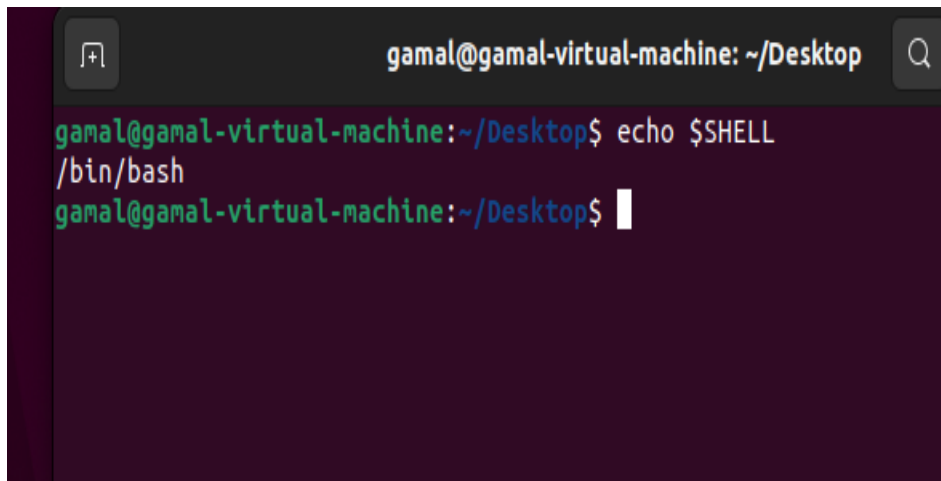
2-env

```

gamal@gamal-virtual-machine:~/Desktop$ env
SHELL=/bin/bash
SESSION_MANAGER=local/gamal-virtual-machine:@/tmp/.ICE-unix/2479,unix/gamal-virtual-machine:/tmp/.ICE-unix/2479
QT_ACCESSIBILITY=1
COLORTERM=truecolor
XDG_CONFIG_DIRS=/etc/xdg/xdg-ubuntu:/etc/xdg
SSH_AGENT_LAUNCHER=gnome-keyring
XDG_MENU_PREFIX=gnome-
GNOME_DESKTOP_SESSION_ID=this-is-deprecated
LC_ADDRESS=ar_EG.UTF-8
GNOME_SHELL_SESSION_MODE=ubuntu
LC_NAME=ar_EG.UTF-8
SSH_AUTH_SOCK=/run/user/1000/keyring/ssh
XMODIFIERS=@im=ibus
DESKTOP_SESSION=ubuntu
LC_MONETARY=ar_EG.UTF-8
GTK_MODULES=gail:atk-bridge
PWD=/home/gamal/Desktop
LOGNAME=gamal
XDG_SESSION_DESKTOP=ubuntu
XDG_SESSION_TYPE=wayland
SYSTEMD_EXEC_PID=2517
XAUTORITY=/run/user/1000/.mutter-Xwaylandauth.BAU0F2
HOME=/home/gamal
USERNAME=gamal
IM_CONFIG_PHASE=1
LC_PAPER=ar_EG.UTF-8
LANG=en_US.UTF-8
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33:1:cd=40;33:01:or=40;31:01:mi=00:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01;31:*.lзма=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.wim=01;31:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.webm=01;35:*.webp=01;35:*.ogm=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00;36:*.m4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;36:*.ra=00;36:*.wav=00;36:*.oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:

```

7. Display your current shell name



```

gamal@gamal-virtual-machine: ~/Desktop
gamal@gamal-virtual-machine:~/Desktop$ echo $SHELL
/bin/bash
gamal@gamal-virtual-machine:~/Desktop$

```

8. State the initialization files of: sh, ksh, bash.

by searching on google we 'll find the following :

C Shell Initialization Files

C shell initialization files run in a particular sequence after the user logs in to the system. For the C shell, initialization files are run in the following sequence:

1. Commands in `/etc/.login` are executed.
2. Commands from the `$HOME/.cshrc` file (located in the user's home directory) are executed. In addition, each time the user starts a new shell or opens a new window in the CDE, commands from `$HOME/.cshrc` are run.
3. The shell executes commands from the `$HOME/.login` file (located in the user's home directory). Typically, the `$HOME/.login` file contains commands to specify the terminal type and environment.
4. When startup processing is complete, the C shell begins reading commands from the default input device, the terminal.

Although it is not part of the initialization of the shell, when the C shell terminates, it performs commands from the `$HOME/.logout` file (if that file exists in the home directory).

Bourne Shell Initialization Files

Bourne shell initialization files run in a particular sequence after the user logs in to the system. For the Bourne shell, initialization files are run in the following sequence:

1. Commands in `/etc/profile` are executed.
2. Commands from the `$HOME/.profile` file (located in the user's home directory) are executed. Typically, the `$HOME/.profile` file contains commands to specify the terminal type and environment.
3. When startup processing is complete, the Bourne shell begins reading commands from the default input device, the terminal.

Korn Shell Initialization Files

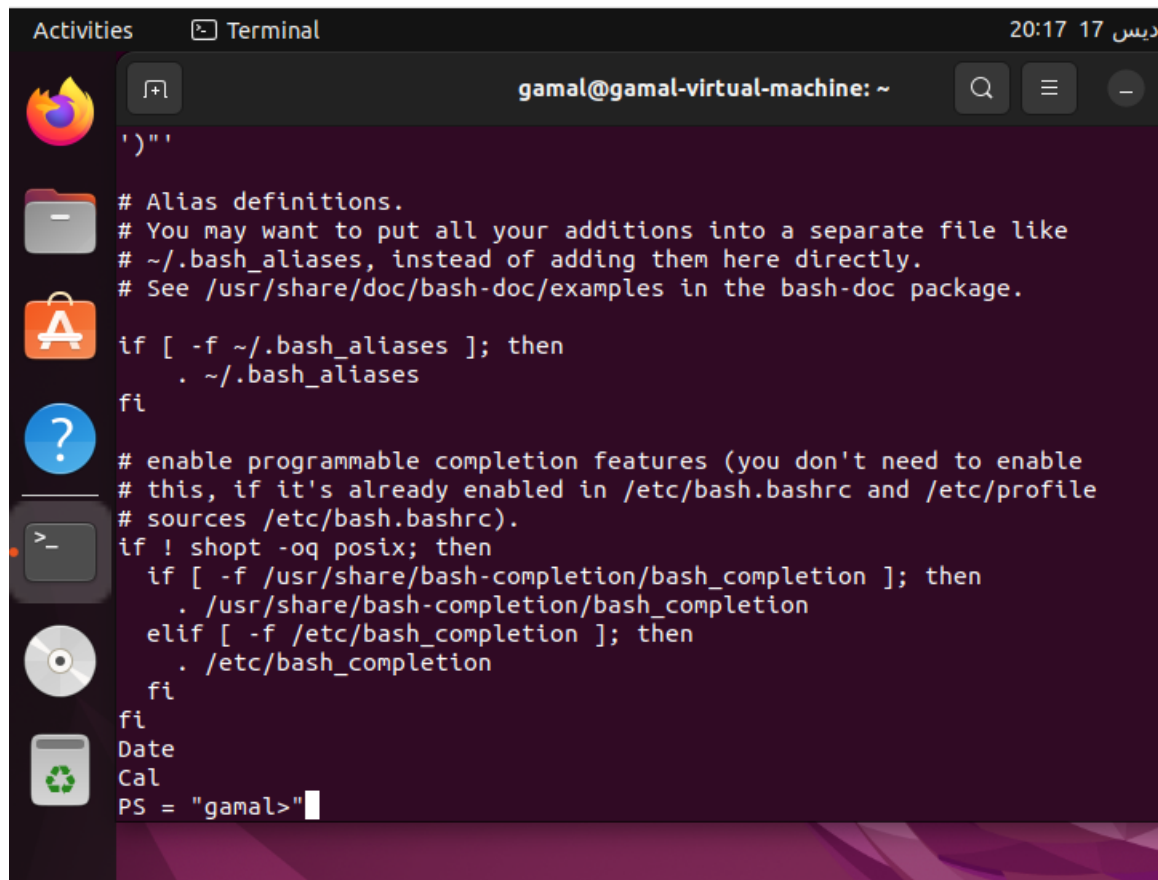
Korn shell initialization files run in a particular sequence after the user logs in to the system. For the Korn shell, initialization files are run in the following sequence:

1. Commands in `/etc/profile` are executed.
2. Commands from the `$HOME/.profile` file (located in the user's home directory) are executed. Typically, the `$HOME/.profile` file contains commands to specify the terminal type and environment.
3. If the `$HOME/.kshrc` file is present, commands located in this file are executed. In addition, this initialization file gets read (and the commands get executed) every time a new Korn shell is started after login.

4. When startup processing is complete, the Korn shell begins reading commands from the default input device, the terminal.

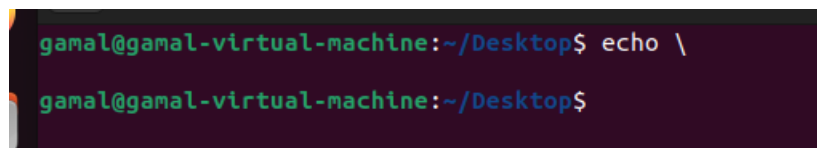
9. Edit in your profile to display date at login and change your prompt permanently

```
gamal@gamal-virtual-machine:~/Desktop$ cd
gamal@gamal-virtual-machine:~$ ls -a
.  .bash_history  .bashrc  .config  Documents  .lesshst  Music  mypasswd  Pictures  Public  .sudo_as_admin_successful  Videos
.. .bash_logout  .cache   Desktop  Downloads  .local   mycv   myteam   .profile  snap    Templates
gamal@gamal-virtual-machine:~$ vi .bashrc
gamal@gamal-virtual-machine:~$
```


A terminal window titled 'Terminal' with the username 'gamal' and host 'gamal-virtual-machine'. The window shows a bash configuration script. The script includes comments about alias definitions and completion features. It uses conditional logic to source files like ~/.bash_aliases and /usr/share/bash-completion/bash_completion. The prompt is 'PS = "gamal>"'.

```
gamal@gamal-virtual-machine: ~  
' )"  
  
# Alias definitions.  
# You may want to put all your additions into a separate file like  
# ~/.bash_aliases, instead of adding them here directly.  
# See /usr/share/doc/bash-doc/examples in the bash-doc package.  
  
if [ -f ~/.bash_aliases ]; then  
    . ~/.bash_aliases  
fi  
  
# enable programmable completion features (you don't need to enable  
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile  
# sources /etc/bash.bashrc).  
if ! shopt -oq posix; then  
    if [ -f /usr/share/bash-completion/bash_completion ]; then  
        . /usr/share/bash-completion/bash_completion  
    elif [ -f /etc/bash_completion ]; then  
        . /etc/bash_completion  
    fi  
fi  
Date  
Cal  
PS = "gamal>"
```

10. Execute the following command : `echo \` then press enter

A terminal window showing the command `echo \` being executed. The prompt is `gamal@gamal-virtual-machine:~/Desktop$`.

```
gamal@gamal-virtual-machine:~/Desktop$ echo \  
gamal@gamal-virtual-machine:~/Desktop$
```

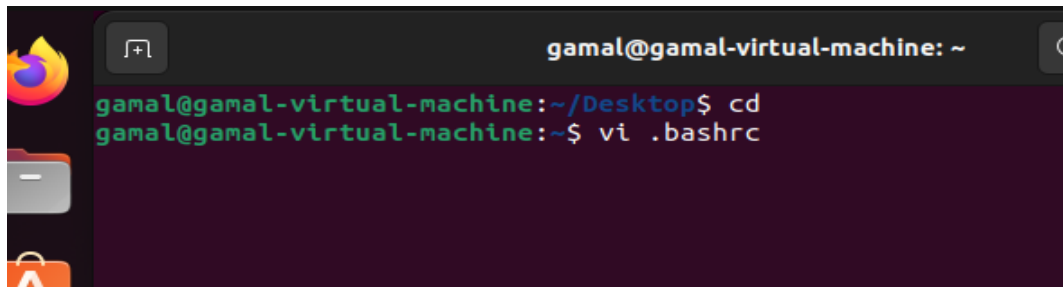
What is the purpose of `\` ?

starting new line

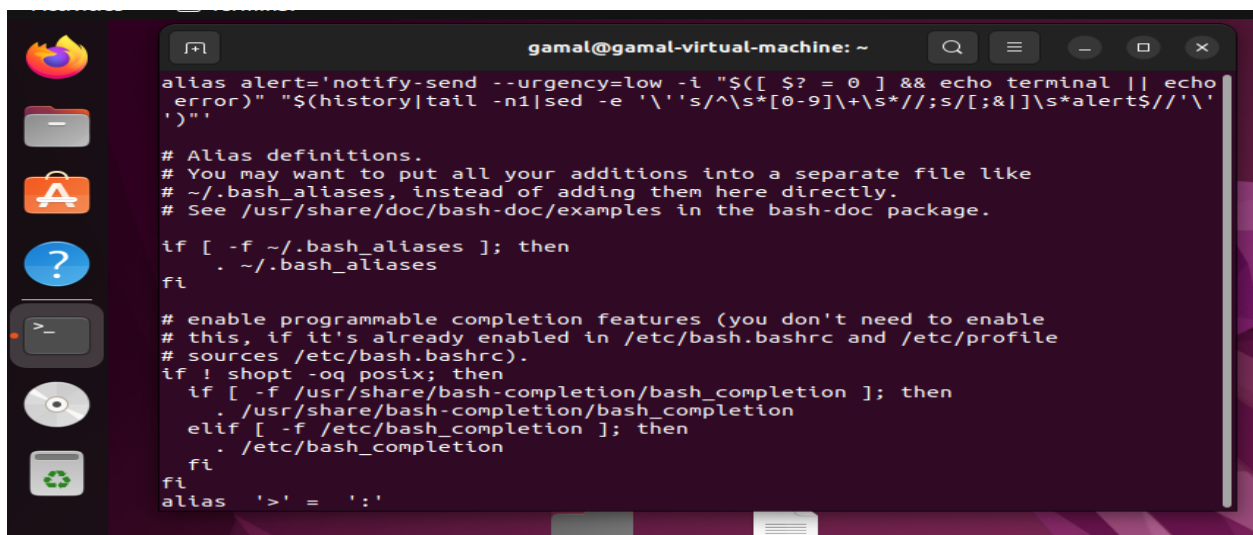
Notice the prompt ">" what is that?

That's indicating that whatever command you typed wasn't complete, and it's still waiting for you to type the rest of it.

and how can you change it from ">" to ":"

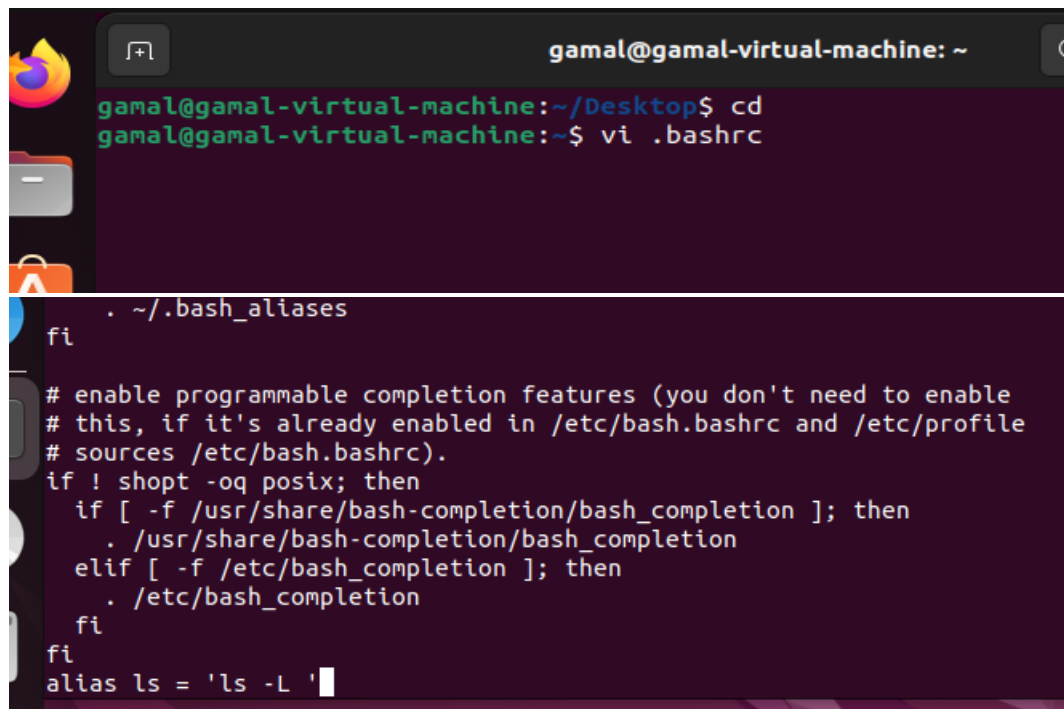


```
gamal@gamal-virtual-machine: ~  
gamal@gamal-virtual-machine:~/Desktop$ cd  
gamal@gamal-virtual-machine:~$ vi .bashrc
```



```
gamal@gamal-virtual-machine: ~  
alias alert='notify-send --urgency=low -i "${[ $? = 0 ]}&& echo terminal || echo error)" "$(history|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//;s/[\;:&]\s*alert$/\s*\''  
'")'  
  
# Alias definitions.  
# You may want to put all your additions into a separate file like  
# ~/.bash_aliases, instead of adding them here directly.  
# See /usr/share/doc/bash-doc/examples in the bash-doc package.  
  
if [ -f ~/.bash_aliases ]; then  
    . ~/.bash_aliases  
fi  
  
# enable programmable completion features (you don't need to enable  
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile  
# sources /etc/bash.bashrc).  
if ! shopt -oq posix; then  
    if [ -f /usr/share/bash-completion/bash_completion ]; then  
        . /usr/share/bash-completion/bash_completion  
    elif [ -f /etc/bash_completion ]; then  
        . /etc/bash_completion  
    fi  
fi  
alias '>' = ':'
```

11.Create a Bash shell alias named ls for the “ls -l” command

A terminal window titled 'gamal@gamal-virtual-machine: ~' with a dark purple background. The window shows a sequence of commands and their output. The user navigates to the Desktop directory and opens the .bashrc file in a text editor. The editor displays the contents of the file, which includes comments about bash completion and a new alias for the 'ls' command. The cursor is at the end of the alias line.

```
gamal@gamal-virtual-machine:~/Desktop$ cd
gamal@gamal-virtual-machine:~$ vi .bashrc

. ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
  if [ -f /usr/share/bash-completion/bash_completion ]; then
    . /usr/share/bash-completion/bash_completion
  elif [ -f /etc/bash_completion ]; then
    . /etc/bash_completion
  fi
fi
alias ls = 'ls -L '
```