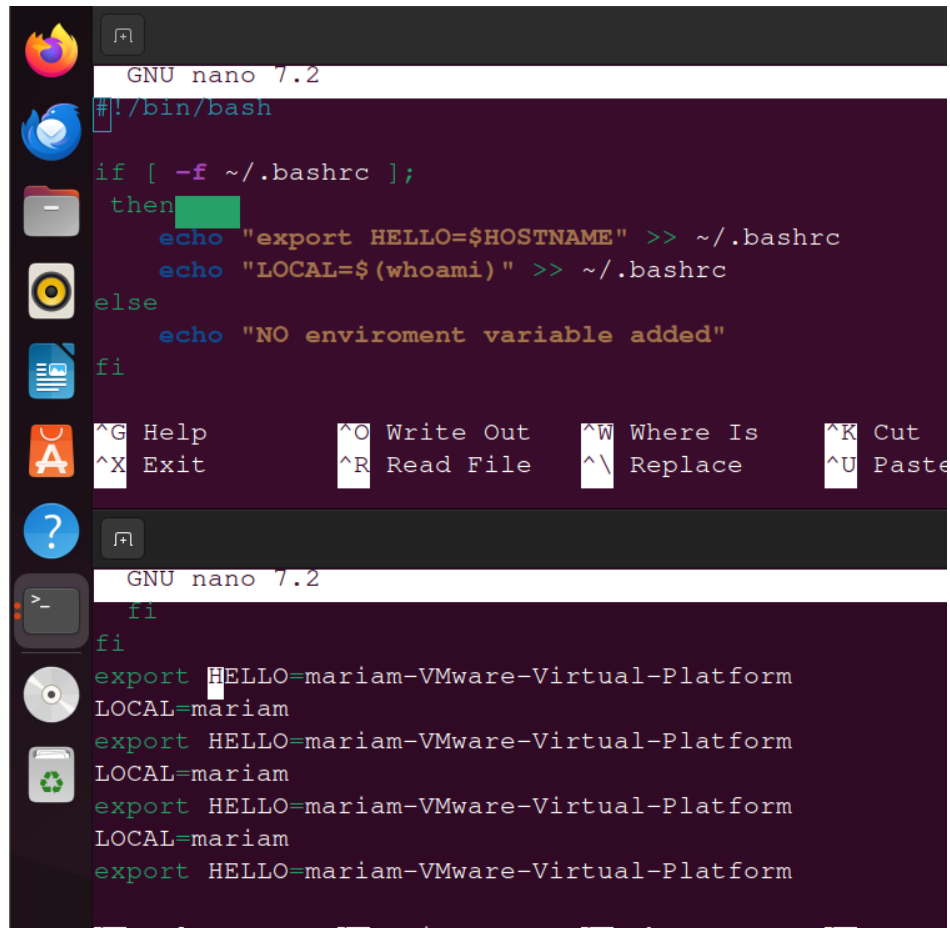


Task 3

Mariam Hassan Amin

(1) Write a Bash script that checks IF the



The screenshot shows a terminal window with a dark background. The top part shows the nano editor editing a file. The script content is as follows:

```
GNU nano 7.2
#!/bin/bash

if [ -f ~/.bashrc ];
then
    echo "export HELLO=$HOSTNAME" >> ~/.bashrc
    echo "LOCAL=$(whoami)" >> ~/.bashrc
else
    echo "NO enviroment variable added"
fi
```

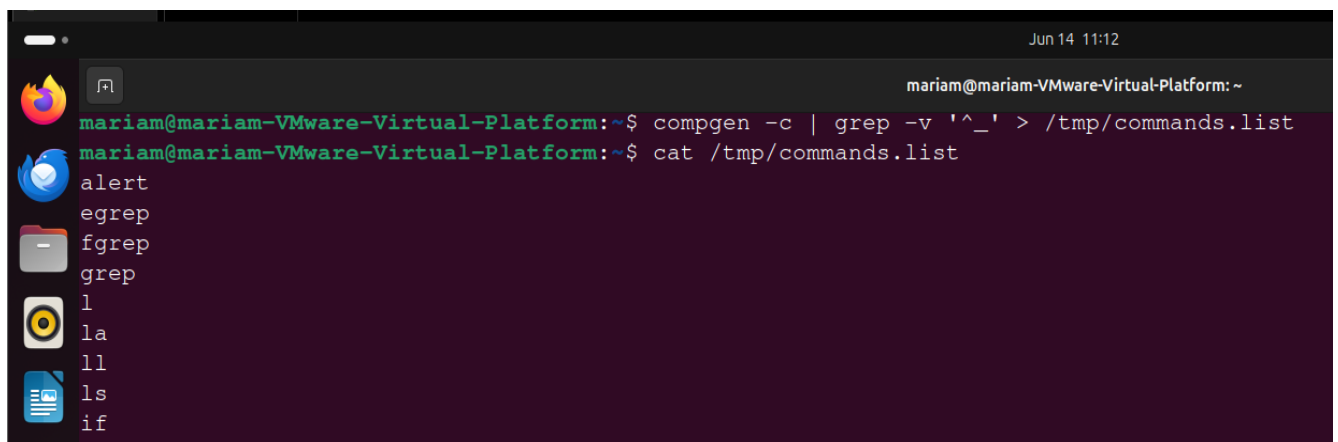
Below the script, a help menu is visible with the following options:

^G Help	^O Write Out	^W Where Is	^K Cut
^X Exit	^R Read File	^_ Replace	^U Paste

The bottom part of the screenshot shows the nano editor editing the same file again, displaying the output of the script:

```
GNU nano 7.2
fi
fi
export HELLO=mariam-VMware-Virtual-Platform
LOCAL=mariam
export HELLO=mariam-VMware-Virtual-Platform
LOCAL=mariam
export HELLO=mariam-VMware-Virtual-Platform
LOCAL=mariam
export HELLO=mariam-VMware-Virtual-Platform
```

(2) List the user commands



The screenshot shows a terminal window with a dark background. The top right corner displays the date and time: "Jun 14 11:12". The terminal prompt is "mariam@mariam-VMware-Virtual-Platform: ~". The user has entered the following commands:

```
mariam@mariam-VMware-Virtual-Platform:~$ compgen -c | grep -v '^_' > /tmp/commands.list
mariam@mariam-VMware-Virtual-Platform:~$ cat /tmp/commands.list
```

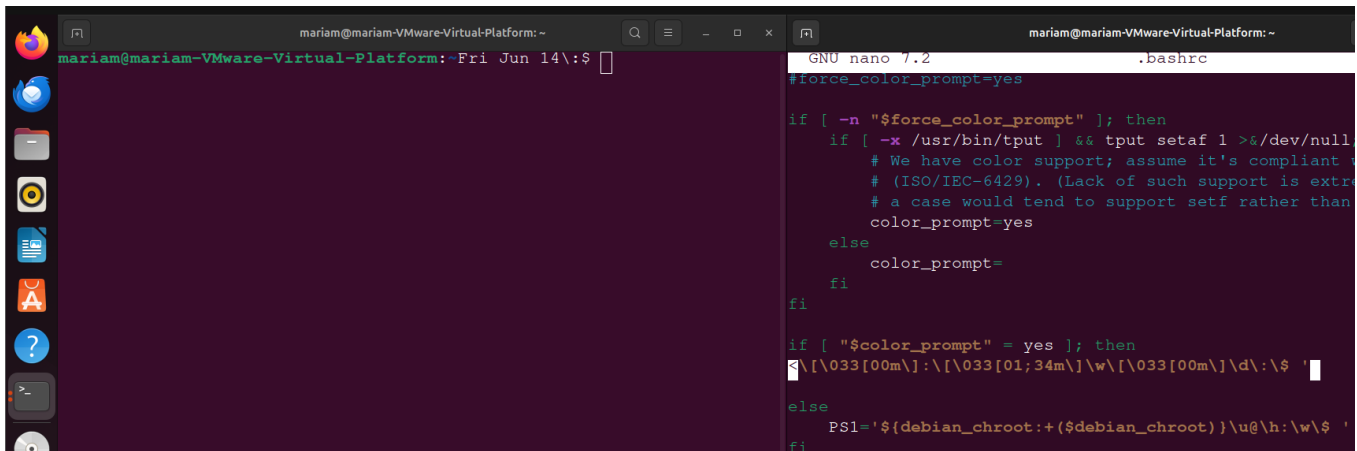
The output of the command is a list of user commands:

```
alert
egrep
fgrep
grep
l
la
ll
ls
if
t
```

Task 3

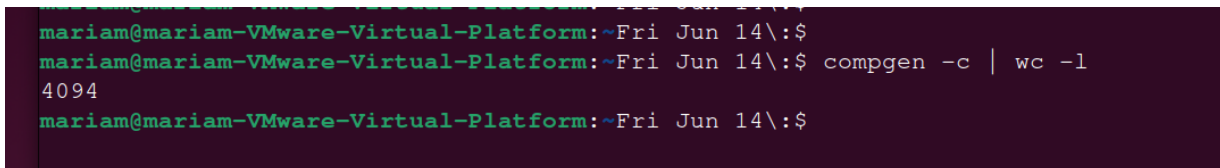
Mariam Hassan Amin

(3) Edit in your profile to display date



```
mariam@mariam-VMware-Virtual-Platform: ~Fri Jun 14\:$  
GNU nano 7.2 .bashrc  
#force_color_prompt=yes  
  
if [ -n "$force_color_prompt" ]; then  
    if [ -x /usr/bin/tput ] && tput setaf 1 >&/dev/null  
    # We have color support; assume it's compliant  
    # (ISO/IEC-6429). (Lack of such support is extre  
    # a case would tend to support setf rather than  
    color_prompt=yes  
else  
    color_prompt=  
fi  
  
if [ "$color_prompt" = yes ]; then  
    PS1='\033[00m\:\033[01;34m\w\033[00m\ d\:$ '   
else  
    PS1='${debian_chroot:+($debian_chroot)}\u@h:w\$ '   
fi
```

(4) Count the number of user commands



```
mariam@mariam-VMware-Virtual-Platform: ~Fri Jun 14\:$  
mariam@mariam-VMware-Virtual-Platform: ~Fri Jun 14\:$ compgen -c | wc -l  
4094  
mariam@mariam-VMware-Virtual-Platform: ~Fri Jun 14\:$
```

(5) What happens if you execute:

- a. `cat filename1 | cat filename2` → nothing happened just show the o/p of filename2
- b. `ls | rm` → error because need permission to delete all files in o/p of ls
- c. `ls /etc/passwd | wc -l` → error because the passed is a file not directory to list it and the command wc is displays the number of lines, words, and characters in a file

Task 3

Mariam Hassan Amin

(6) search for all files

```
mariam@maria-VMware-Virtual-Platform:~$ locate ".profile"
/etc/skel/.profile
/home/mariam/.profile
/snap/core/16928/etc/skel/.profile
/snap/core/16928/usr/share/base-files/dot.profile
/snap/core/16928/usr/share/base-files/dot.profile.md5sums
/snap/core22/1380/etc/skel/.profile
/snap/core22/1380/usr/share/base-files/dot.profile
/snap/core22/1380/usr/share/base-files/dot.profile.md5sums
/snap/core22/1380/usr/share/lintian/profiles/dpkg/main.profile
/snap/core22/1380/usr/share/opensc/asepcos.profile
/snap/core22/1380/usr/share/opensc/authentic.profile
/snap/core22/1380/usr/share/opensc/cardos.profile
/snap/core22/1380/usr/share/opensc/cyberflex.profile
/snap/core22/1380/usr/share/opensc/entersafe.profile
/snap/core22/1380/usr/share/opensc/epass2003.profile
/snap/core22/1380/usr/share/opensc/flex.profile
/snap/core22/1380/usr/share/opensc/gids.profile
/snap/core22/1380/usr/share/opensc/gpk.profile
/snap/core22/1380/usr/share/opensc/ias_adele_admin1.profile
/snap/core22/1380/usr/share/opensc/ias_adele_admin2.profile
/snap/core22/1380/usr/share/opensc/ias_adele_common.profile
/snap/core22/1380/usr/share/opensc/iasecc.profile
/snap/core22/1380/usr/share/opensc/iasecc_admin_eid.profile
/snap/core22/1380/usr/share/opensc/iasecc_generic_oberthur.profile
/snap/core22/1380/usr/share/opensc/iasecc_generic_pki.profile
/snap/core22/1380/usr/share/opensc/incrypto34.profile
```

(7) List the inode numbers

```
393299 logrotate.d
maria-VMware-Virtual-Platform:~$ ls -li /etc/hosts
393610 /etc/hosts

/:
12 bin 393218 opt
655361 bin usr-is-merged 1 proc
786433 boot 1048578 root
1048577 cdrom 1 run
1 dev 15 sbin
393217 etc 655362 sbin usr-is-merged
131073 home 786434 snap
13 lib 917506 srv
14 lib64 16 swap.img
917505 lib usr-is-merged 1 sys
11 lost+found 131075 tmp
1179649 media 786435 usr
262146 mnt 1179651 var

/etc:
393586 adduser.conf 393628 lsb-release
393231 alsa 393629 machine-id
393232 alternatives 393630 magic
393587 anacrontab 393631 magic.mime
393588 apg.conf 393632 manpath.config
393233 apm 393633 mime.types
```

Task 3

Mariam Hassan Amin

(8) Create a symbolic link of /etc/passwd in /boot.

```
mariam@mariam-VMware-Virtual-Platform:~$ sudo ln -s /etc/passwd /boot/passwd_ln
[sudo] password for mariam:
mariam@mariam-VMware-Virtual-Platform:~$ ls /boot
config-6.8.0-35-generic  memtest86+ia32.bin  System.map-6.8.0-35-generic
grub                   memtest86+ia32.efi  vmlinuz
initrd.img             memtest86+x64.bin  vmlinuz-6.8.0-35-generic
initrd.img-6.8.0-35-generic  memtest86+x64.efi  vmlinuz.old
initrd.img.old         passwd_ln
mariam@mariam-VMware-Virtual-Platform:~$
```

(9) Create a hard link of /etc/passwd in /boot. Could you? Why?

```
mariam@mariam-VMware-Virtual-Platform:~$ sudo ln /etc/passwd /boot/passwd_h
mariam@mariam-VMware-Virtual-Platform:~$ ls /boot
config-6.8.0-35-generic  memtest86+ia32.bin  passwd_ln  System.map-6.8.0-35-generic
grub                   memtest86+ia32.efi  vmlinuz
initrd.img             memtest86+x64.bin  vmlinuz-6.8.0-35-generic
initrd.img-6.8.0-35-generic  memtest86+x64.efi  vmlinuz.old
initrd.img.old         passwd_h
mariam@mariam-VMware-Virtual-Platform:~$ cat /boot/passwd_
passwd_h  passwd_ln
mariam@mariam-VMware-Virtual-Platform:~$ cat /boot/passwd_h
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
```

(10) Echo \ it will jump to the next line, and will print >

Notice the prompt ">" what is that? waiting for more input to finish the command

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

Create PS2 → secondary prompt displayed when a command needs more input

```
GNU nano 7.2 .bashrc *
# 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
export HELLO=mariam-VMware-Virtual-Platform
LOCAL=mariam
export PS2=":"

mariam@mariam-VMware-Virtual-Platform:~$ echo \
:mariam
mariam
mariam@mariam-VMware-Virtual-Platform:~$ echo \
:
mariam@mariam-VMware-Virtual-Platform:~$
```