1. Create a script that asks for user name then send a greeting to him.

```
nardine@nardine-VirtualBox:~$ vi greet.sh
nardine@nardine-VirtualBox:~$ chmod +x greet.sh
nardine@nardine-VirtualBox:~$ ./greet.sh
Enter your name:
Nardine
Welcome,Nardine!
nardine@nardine-VirtualBox:~$
```

```
#!/bin/bash
echo Enter your name:
read name
echo "Welcome,$name!"
```

2. Create a script called s1 that calls another script s2 where:
   a. In s1 there is a variable called x, it's value 5
   b. Try to print the value of x in s2 by two different ways.

```
nardine@nardine-VirtualBox:~$ vi s1
nardine@nardine-VirtualBox:~$ vi s2
nardine@nardine-VirtualBox:~$ chmod +x s1 s2
nardine@nardine-VirtualBox:~$ ./s1
First Method Value of x= 5
Second Method Value of x= 5
nardine@nardine-VirtualBox:~$
```

```
#!/bin/bash
x=5
export x
./s2 "$x"
```
S1

```
#!/bin/bash
echo "First Method Value of x= $1"
echo "Second Method Value of x= $x"
```
S2

3. Create a script called mycp where:
   a. It copies a file to another
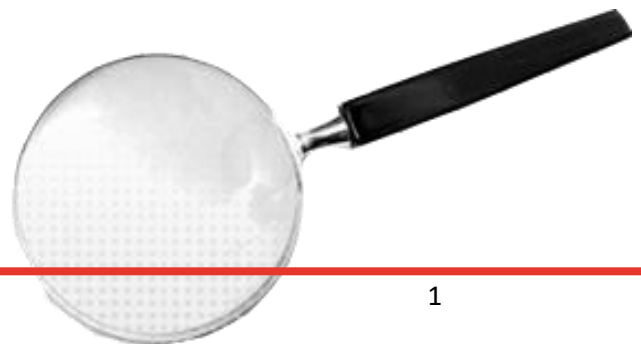   b. It copies multiple files to a directory.

```
#!/bin/bash
if [ $# -lt 2 ]
then
echo "Not enough arguments!"
fi


source="$1"
destination="$2"


if [ -f $source ]
then
cp $source $destination
echo "File $source copied to $destination"
else
echo "File doesn't exist"
fi
~
~
~
```

```
nardine@nardine-VirtualBox:~$ vi mycp
nardine@nardine-VirtualBox:~$ chmod +x mycp
nardine@nardine-VirtualBox:~$ ./mycp s1 s2
File s1 copied to s2
nardine@nardine-VirtualBox:~$
```

```
nardine@nardine-VirtualBox:~$ ./mycp listtt s2
File doesn't exist
nardine@nardine-VirtualBox:~$ ./mycp s2
Not enough arguments!
```

Bash Shell

4. Create a script called mycd where:
   a. It changed directory to the user home directory, if it is called without arguments.
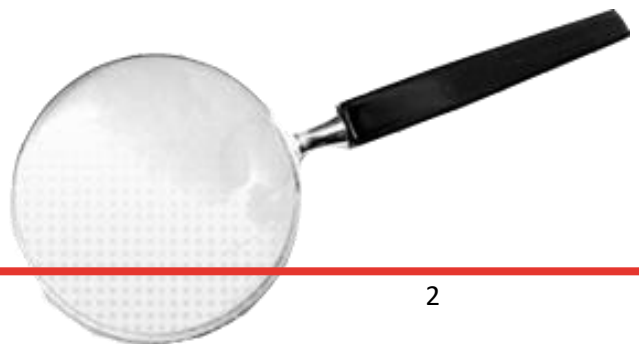   b. Otherwise, it change directory to the given directory.

```
nardine@nardine-VirtualBox:~$ vi mycd
nardine@nardine-VirtualBox:~$ chmod +x mycd
nardine@nardine-VirtualBox:~$ ./mycd
Changed to home directory: /home/nardine
nardine@nardine-VirtualBox:~$ pwd
/home/nardine
nardine@nardine-VirtualBox:~$ . ./mycd /etc
Changed to directory: /etc
nardine@nardine-VirtualBox:/etc$ pwd
/etc
nardine@nardine-VirtualBox:/etc$ . ./mycd /home/nardine
bash: ./mycd: No such file or directory
nardine@nardine-VirtualBox:/etc$ . /home/nardine/mycd
Changed to home directory: /home/nardine
nardine@nardine-VirtualBox:~$ pwd
/home/nardine
nardine@nardine-VirtualBox:~$
```

```
#!/bin/bash
if [ $# -eq 0 ]
then
cd /home/nardine
echo "Changed to home directory: $HOME"
else
cd $1
echo "Changed to directory: $(pwd)"
fi
~
~
```

5. Create a script called myls where:
   a. It lists the current directory, if it is called without arguments.
   b. Otherwise, it lists the given directory.

```
nardine@nardine-VirtualBox:~$ vi myls
nardine@nardine-VirtualBox:~$ chmod +x myls
nardine@nardine-VirtualBox:~$ ./myls
dead.letter  Desktop  Documents  Downloads  greet.sh  Music  mycd  mycp  myls  Pictures  Public  s1  s2  snap  Templates  Videos
nardine@nardine-VirtualBox:~$ ./myls /etc
acpi                ca-certificates                dpkg            gshadow-      kerneloops.conf  mailcap.order    PackageKit     r
adduser.conf        ca-certificates.conf           e2scrub.conf    gss           ldap             mailname         pam.conf       r
aliases             ca-certificates.conf.dpkg-old  emacs           gtk-2.0       ld.so.cache      manpath.config   pam.d          r
aliases.db          chatscripts                    environment     gtk-3.0       ld.so.conf       mime.types       papersize      r
alsa                console-setup                  environment.d   hdparm.conf   ld.so.conf.d     mke2fs.conf      passwd         r
alternatives        cracklib                       ethertypes      host.conf     legal            ModemManager     passwd-        r
anacrontab          cron.d                         firefox         hostid        libao.conf       modprobe.d       pcmcia         r
```

```
#!/bin/bash
if [ $# -eq 0 ]
then
ls
else
ls $1
fi
~
```

Bash Shell

6. Enhance the above script to support the following options individually:
   a. –l: list in long format
   b. –a: list all entries including the hiding files.
   c. –d: if an argument is a directory, list only its name
   d. –i: print inode number
   e. –R: recursively list subdirectories

```bash
#!/bin/bash
if [ $# -eq 0 ]
then
    ls
else
    if [ $# -eq 1 ]
    then
        ls $1
    fi

    if [ $# -eq 2 ]
    then
        if [ $1 = "-l" ]
        then
            ls -l $2
        elif [ $1 = "-a" ]
        then
            ls -a $2
        elif [ $1 = "-d" ]
        then
            ls -d $2
        elif [ $1 = "-i" ]
        then
            ls -i $2
        elif [ $1 = "-R" ]
        then
            ls -R $2
        fi
    fi
fi
~
```

Test Cases

```
nardine@nardine-VirtualBox:~$ ./myls -l /etc
total 1176
drwxr-xr-x  3 root root   4096 Aug  8 01:55 acpi
-rw-r--r--  1 root root   3028 Aug  8 01:52 adduser.conf
-rw-r--r--  1 root root     51 Nov 19 14:46 aliases
-rw-r--r--  1 root root  12288 Nov 19 15:09 aliases.db
drwxr-xr-x  3 root root   4096 Aug  8 01:53 alsa
drwxr-xr-x  2 root root   4096 Nov 19 14:46 alternatives
```

```
nardine@nardine-VirtualBox:~$ ./myls -a /home/nardine
.                .bashrc       Desktop     .lesshst   mycp                    .profile   snap
..               .cache        Documents   .local     myls                    Public     .sudo_as_admin_successf
.bash_history    .config       Downloads   Music      .pam_environment   s1              Templates
.bash_logout     dead.letter   greet.sh    mycd       Pictures                s2          .vboxclient-clipboard-t
nardine@nardine-VirtualBox:~$ ./myls /home/nardine
dead.letter  Desktop  Documents  Downloads  greet.sh  Music  mycd  mycp  myls  Pictures  Public  s1
nardine@nardine-VirtualBox:~$
```

```
nardine@nardine-VirtualBox:~$ ./myls -d /home/nardine/Documents
/home/nardine/Documents
nardine@nardine-VirtualBox:~$
```

```
nardine@nardine-VirtualBox:~$ ./myls -i /etc
1048584 acpi              1048725 crontab            1106274 group          104875
1048714 adduser.conf      1048606 cron.weekly        1048736 group-         104875
1106062 aliases           1048608 cups               1048629 grub.d         104864
1106273 aliases.db        1048609 cupshelpers        1106271 gshadow        104864
1048585 alsa              1048610 dbus-1             1075460 gshadow-       104864
1048586 alternatives      1048611 dconf              1048630 gss            104864
1048715 anacrontab        1048726 debconf.conf       1048631 gtk-2.0        104875
1048716 apg.conf          1048727 debian_version     1048632 gtk-3.0        104867
1048587 apm               1048612 default            1048737 hdparm.conf    104875
1048588 apparmor          1048728 deluser.conf       1048738 host.conf      104864
1048589 apparmor.d        1048613 depmod.d           1048739 hostid         104875
```

```
nardine@nardine-VirtualBox:~$ . ./myls -R /etc
/etc:
acpi                     ca-certificates            dpkg            gshadow-
adduser.conf             ca-certificates.conf       e2scrub.conf    gss
aliases                  ca-certificates.conf.dpkg-old  emacs       gtk-2.0
aliases.db               chatscripts                environment     gtk-3.0
alsa                     console-setup              environment.d   hdparm.conf
alternatives             cracklib                   ethertypes      host.conf
anacrontab               cron.d                     firefox         hostid
apg.conf                 cron.daily                 fonts           hostname
apm                      cron.hourly                fprintd.conf    hosts
apparmor                 cron.monthly               fstab           hosts.allow
apparmor.d               crontab                    fuse.conf       hosts.deny
apport                   cron.weekly                fwupd           hp
appstream.conf           cups                       gai.conf        ifplugd
apt                      cupshelpers                gdb             init
avahi                    dbus-1                     gdm3            init.d
bash.bashrc              dconf                      geoclue         initramfs-to
bash_completion          debconf.conf               ghostscript     inputrc
bash_completion.d        debian_version            glvnd           insserv.conf
bindresvport.blacklist   default                    gnome           ipp-usb
binfmt.d                 deluser.conf               groff           iproute2
bluetooth                depmod.d                   group           issue
brlapi.key               dhcp                       group-          issue.net
britty                   dictionaries-common        grub.d          kernel
britty.conf              dkms                       gshadow         kernel-img.co

/etc/acpi:
asus-keyboard-backlight.sh  asus-wireless.sh   events  ibm-wireless.sh  tosh-wirele

/etc/acpi/events:
asus-keyboard-backlight-down  asus-keyboard-backlight-up  asus-wireless-off  asus-w
```

Bash Shell

7. Create a script called mytest where:
   a. It check the type of the given argument (file/directory)
   b. It check the permissions of the given argument (read/write/execute)

```bash
#!/bin/bash
echo "Enter your file/directory name"
read name
if [ -f $name ]
then
  echo "$name is a file"
elif [ -d $name ]
then
  echo "$name is a directory"
else
  echo "Unknown type"
fi

if [ -r $name ]
then
  echo $name is readable
fi

if [ -w $name ]
then
  echo $name is writable
fi

if [ -x $name ]
then
  echo $name is executable
fi
~
```
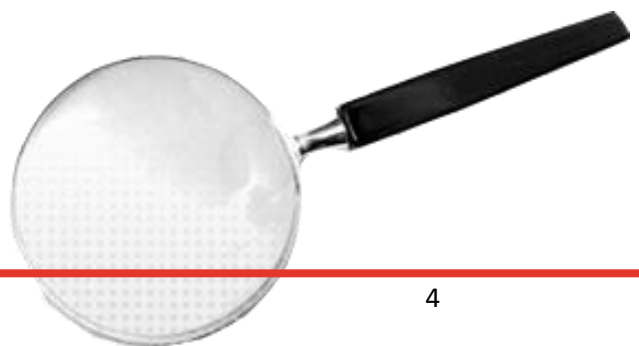
```
nardine@nardine-VirtualBox:~$ vi mytest
nardine@nardine-VirtualBox:~$ chmod +x mytest
nardine@nardine-VirtualBox:~$ ./mytest
Enter your file/directory name
Documents
Documents is a directory
Documents is readable
Documents is writable
Documents is executable
```

```
nardine@nardine-VirtualBox:~$ ./mytest
Enter your file/directory name
/etc/passwd
/etc/passwd is a file
/etc/passwd is readable
nardine@nardine-VirtualBox:~$
```

Bash Shell

8. Create a script called myinfo where:
    a. It asks the user about his/her logname.
    b. It print full info about files and directories in his/her home directory
    c. Copy his/her files and directories as much as you can in /tmp directory.
    d. Gets his current processes status.

```
nardine@nardine-VirtualBox:~$ vi myinfo
nardine@nardine-VirtualBox:~$ chmod +x myinfo
nardine@nardine-VirtualBox:~$ ./myinfo
Enter your logname:
nardine
Full info:
total 76
-rw-------   1 nardine nardine  175 Nov 19 14:55 dead.letter
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Desktop
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Documents
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Downloads
-rwxrwxr-x   1 nardine nardine   66 Dec 11 14:03 greet.sh
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Music
-rwxrwxr-x   1 nardine nardine  141 Dec 11 15:21 mycd
-rwxrwxr-x   1 nardine nardine  221 Dec 11 14:53 mycp
-rwxrwxr-x   1 nardine nardine  222 Dec 11 18:20 myinfo
-rwxrwxr-x   1 nardine nardine  376 Dec 11 16:21 myls
-rwxrwxr-x   1 nardine nardine  342 Dec 11 16:44 mytest
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Pictures
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Public
-rwxrwxr-x   1 nardine nardine   35 Dec 11 14:24 s1
-rwxrwxr-x   1 nardine nardine   35 Dec 11 14:53 s2
drwx------   3 nardine nardine 4096 Nov 13 13:47 snap
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Templates
drwxr-x--- 14 nardine nardine 4096 Dec 11 18:13 tmp
drwxr-xr-x   2 nardine nardine 4096 Nov 13 13:47 Videos
Done copying files and directories
Current Processes Status:
    PID TTY          TIME CMD
   3133 ?        00:00:01 systemd
   3134 ?        00:00:00 (sd-pam)
   3140 ?        00:00:00 pipewire
   3141 ?        00:00:00 pipewire-media-
   3142 ?        00:00:07 pulseaudio
   3145 ?        00:00:00 ubuntu-report
   3153 ?        00:00:00 gnome-keyring-d
   3162 ?        00:00:01 dbus-daemon
```

```
#!/bin/bash
echo "Enter your logname: "
read logname
echo "Full info: "
ls -l /home/$logname
echo "Done copying files and directories"
cp -r /home/$logname /tmp/$logname
echo "Current Processes Status: "
ps -u $logname
~
~
~
```

```
nardine@nardine-VirtualBox:~$ ls /tmp/nardine
dead.letter  Desktop  Documents  Downloads  greet.sh  Music  mycd  mycp  myinfo
  myls  mytest  nardine  Pictures  Public  s1  s2  snap  Templates  tmp  Videos
```

Bash Shell