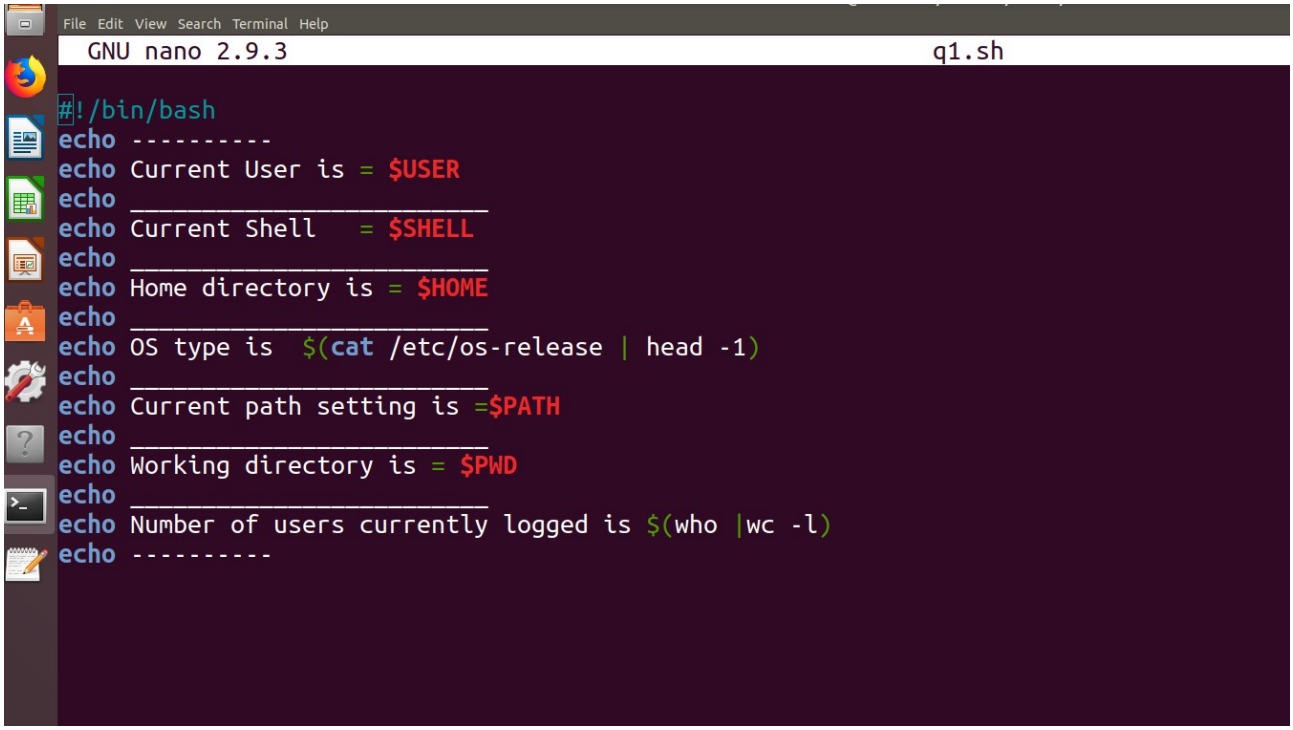
Shell Programming – Set1

Experiment 4 19/03/2019

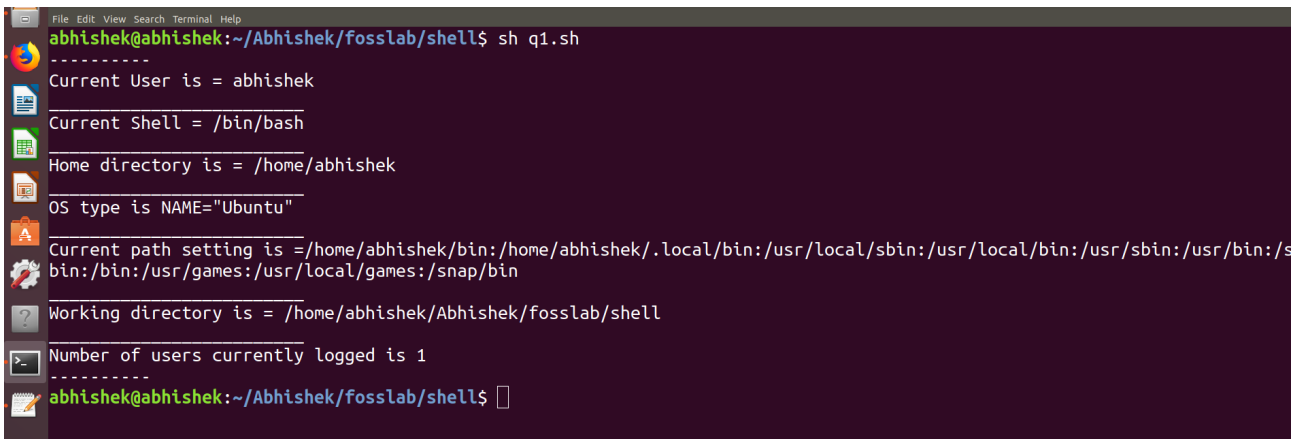
Q1. Write a shell script to show various system configuration like

1. Currently logged user and his login name
2. Your current shell
3. Your home directory
4. Your operating system type
5. Your current path setting
6. Your current working directory
7. Number of users currently logged in.

shell script

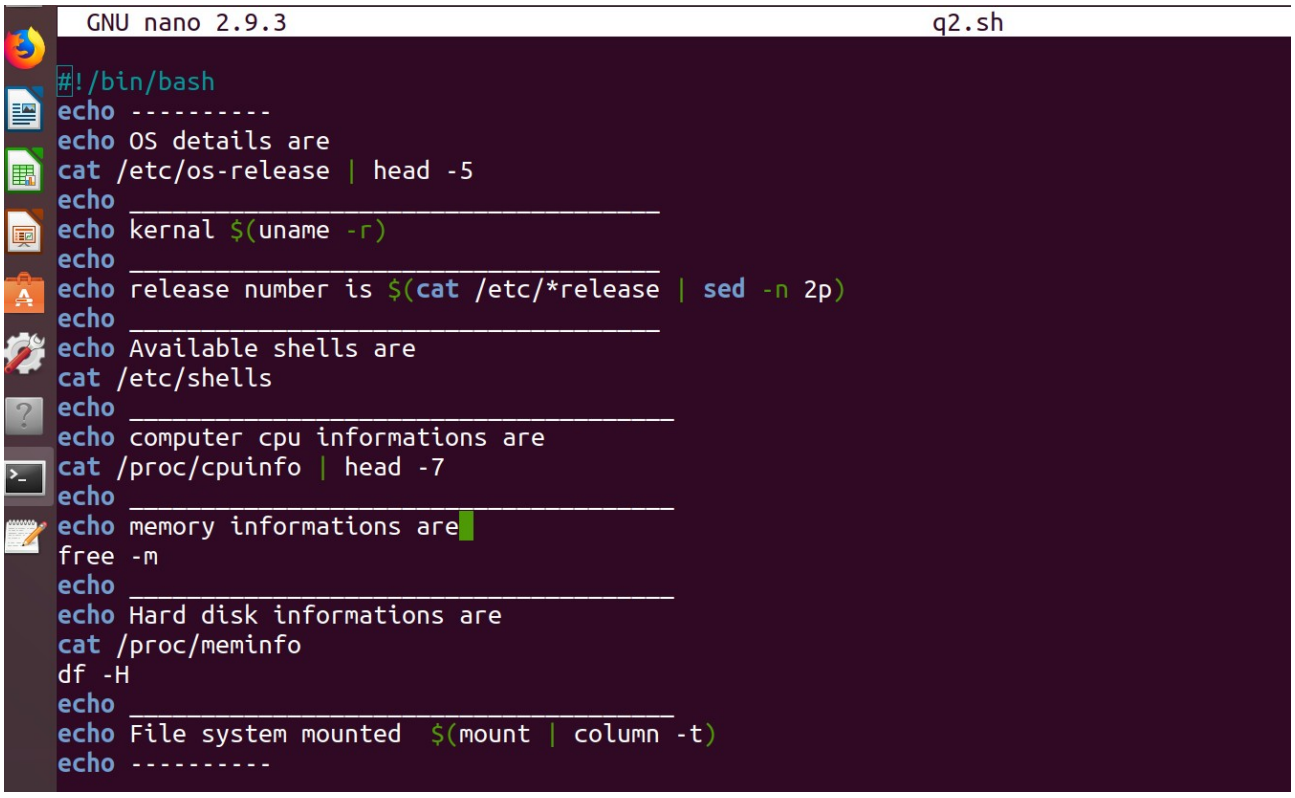


Output



2. Write a shell script to show various system configurations like
    1. your OS and version, release number, kernel version
    2. all available shells
    3. computer CPU information like processor type, speed etc
    4. memory information
    5. hard disk information like size of hard-disk, cache, model etc
    6. File system (Mounted).

Shellscript



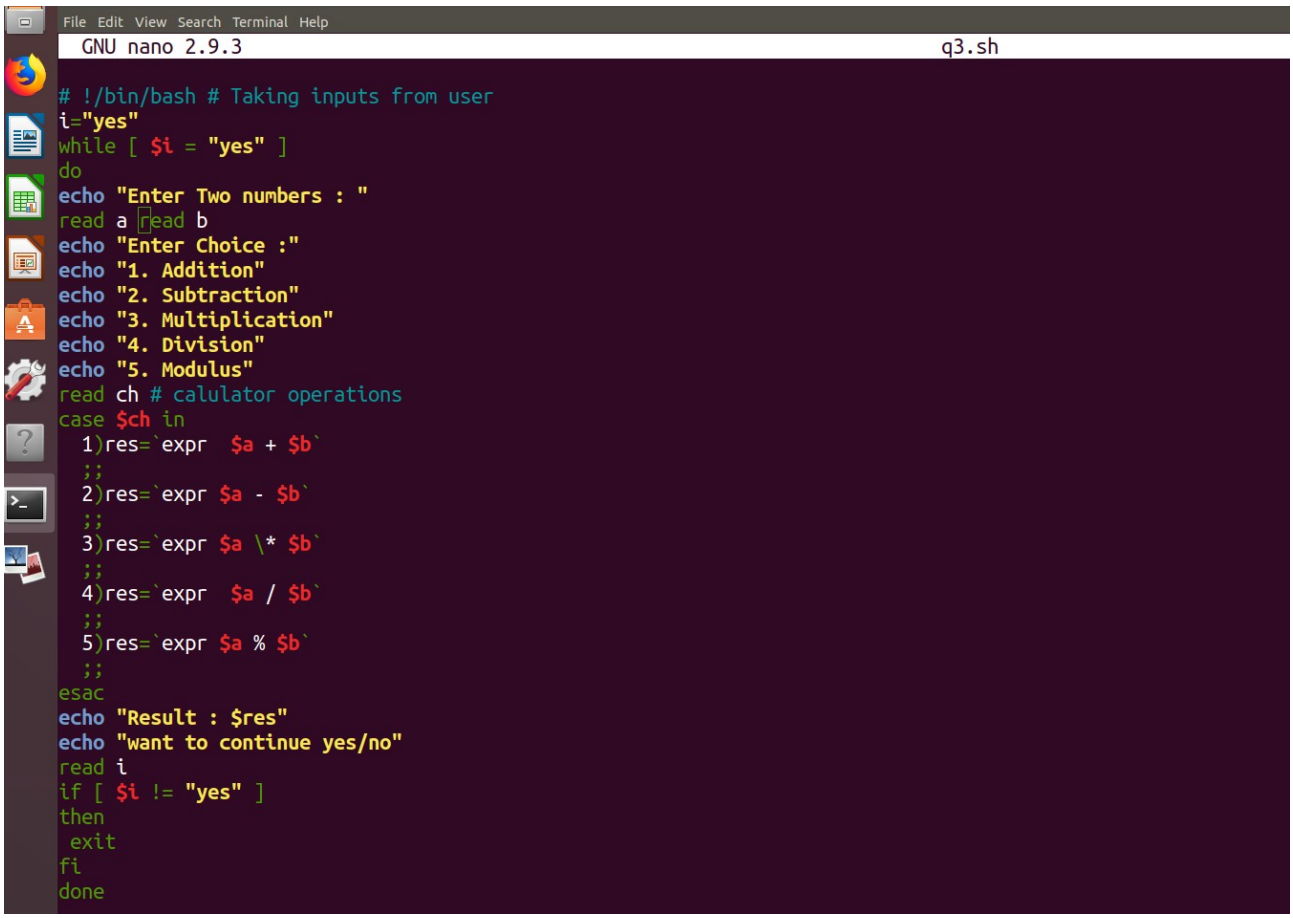
output

```
File system mounted
sysfs                                   on  /sys                        type  sysfs          (rw,nosuid,nodev
,noexec,relatime)
proc                                    on  /proc                       type  proc           (rw,nosuid,nodev
,noexec,relatime)
udev                                    on  /dev                        type  devtmpfs       (rw,nosuid,relat
ime,size=4016000k,nr_inodes=1004000,mode=755)
devpts                                  on  /dev/pts                    type  devpts         (rw,nosuid,noexe
c,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs                                   on  /run                        type  tmpfs          (rw,nosuid,noexe
c,relatime,size=807524k,mode=755)
/dev/sda4                               on  /                           type  ext4           (rw,relatime,err
ors=remount-ro,data=ordered)
securityfs                              on  /sys/kernel/security        type  securityfs     (rw,nosuid,nodev
,noexec,relatime)
tmpfs                                   on  /dev/shm                    type  tmpfs          (rw,nosuid,nodev
)
tmpfs                                   on  /run/lock                   type  tmpfs          (rw,nosuid,nodev
,noexec,relatime,size=5120k)
tmpfs                                   on  /sys/fs/cgroup              type  tmpfs          (ro,nosuid,nodev
,noexec,mode=755)
cgroup                                  on  /sys/fs/cgroup/unified      type  cgroup2        (rw,nosuid,nodev
,noexec,relatime,nsdelegate)
cgroup                                  on  /sys/fs/cgroup/systemd      type  cgroup         (rw,nosuid,nodev
/bin/bash
/bin/rbash

_____________________________________
computer cpu informations are
processor       : 0
vendor_id       : GenuineIntel
cpu family      : 6
model           : 142
model name      : Intel(R) Core(TM) i5-8250U CPU @ 1.60GHz
stepping        : 10
microcode       : 0x96
_____________________________________
memory informations are
              total        used        free      shared  buff/cache   available
Mem:           7885        1170        5575         338        1140        6122
Swap:             0           0           0

_____________________________________
Hard disk informations are
MemTotal:        8075228 kB
MemFree:         5708908 kB
MemAvailable:    6269516 kB
Buffers:           62992 kB
Cached:          1031732 kB
SwapCached:            0 kB
Active:          1368364 kB
Inactive:         719928 kB
Active(anon):     994932 kB
Inactive(anon):   344812 kB
Active(file):     373432 kB
Inactive(file):   375116 kB
Unevictable:          32 kB
Mlocked:              32 kB
SwapTotal:             0 kB
```

3. Write a shell script to implement a menu driven calculator with following functions

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Modulus

Shellscript



output

```
s1702@linux-server:~/fosslab/Shell_script$ sh q3.sh
Enter Two numbers :
5
3
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Modulus
5
Result : 2
want to continue yes/no
yes
Enter Two numbers :
6
2
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Modulus
4
Result : 3
want to continue yes/no
yes
Enter Two numbers :
5
LibreOffice Writer
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Modulus
3
Result : 15
```

4. Write a script called addnames that is to be called as follows ./addnames ulist username

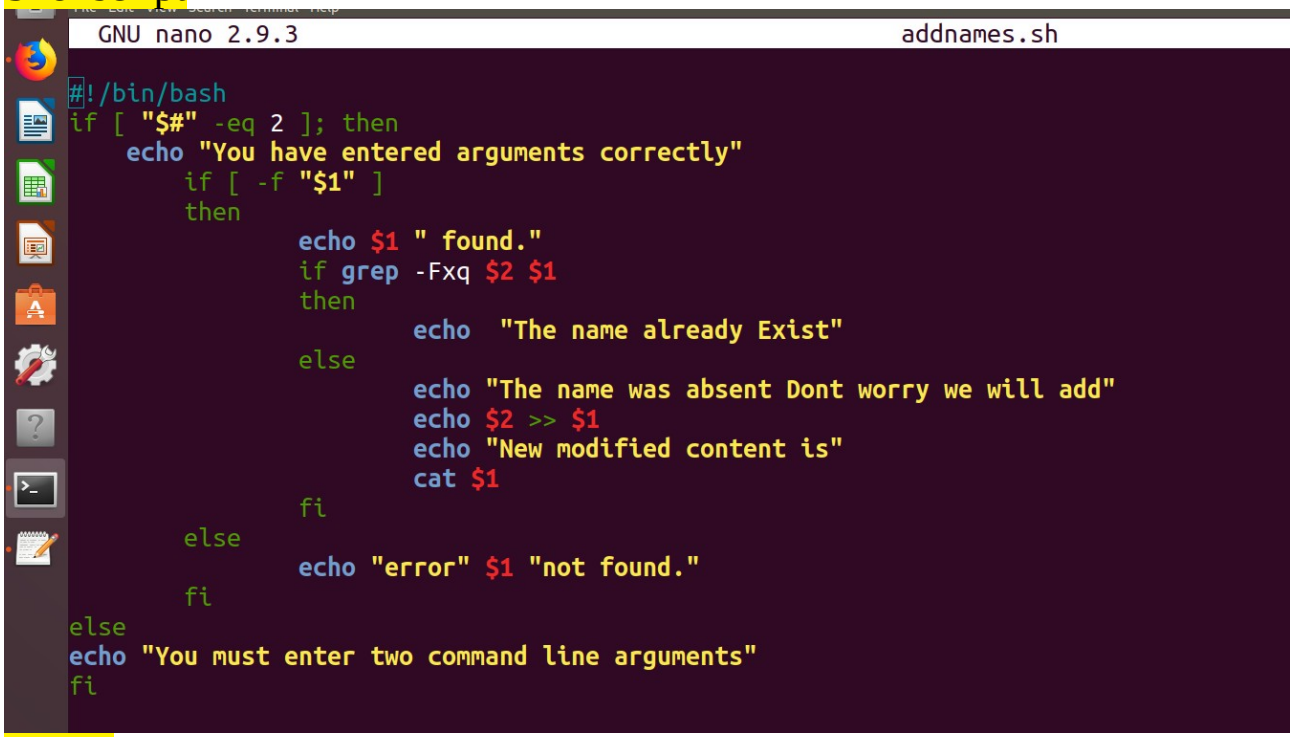
Here ulist is the name of the file that contains list of user names and username is a particular student's username. The script should

1. check that the correct number of arguments was received and print a message,in case the number of arguments is incorrect

2. check whether the ulist file exists and print an error message if it does not

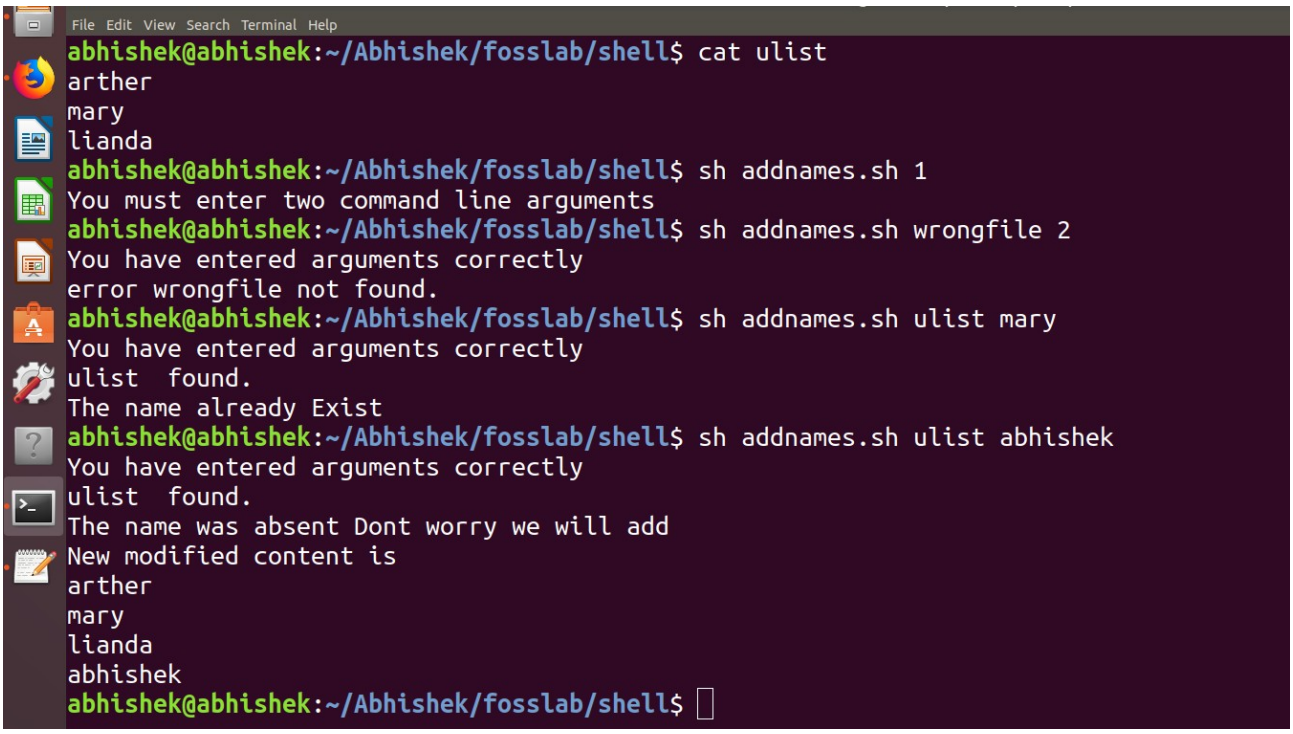
3. check whether the username already exists in the file. If the username exists, print a message stating that the name already exists. Otherwise, add the username to the end of the list.

Shellscript



```
 GNU nano 2.9.3                                          addnames.sh

#!/bin/bash
if [ "$#" -eq 2 ]; then
    echo "You have entered arguments correctly"
        if [ -f "$1" ]
        then
                echo $1 " found."
                if grep -Fxq $2 $1
                then
                        echo  "The name already Exist"
                else
                        echo "The name was absent Dont worry we will add"
                        echo $2 >> $1
                        echo "New modified content is"
                        cat $1
                fi
        else
                echo "error" $1 "not found."
        fi
else
echo "You must enter two command line arguments"
fi
```

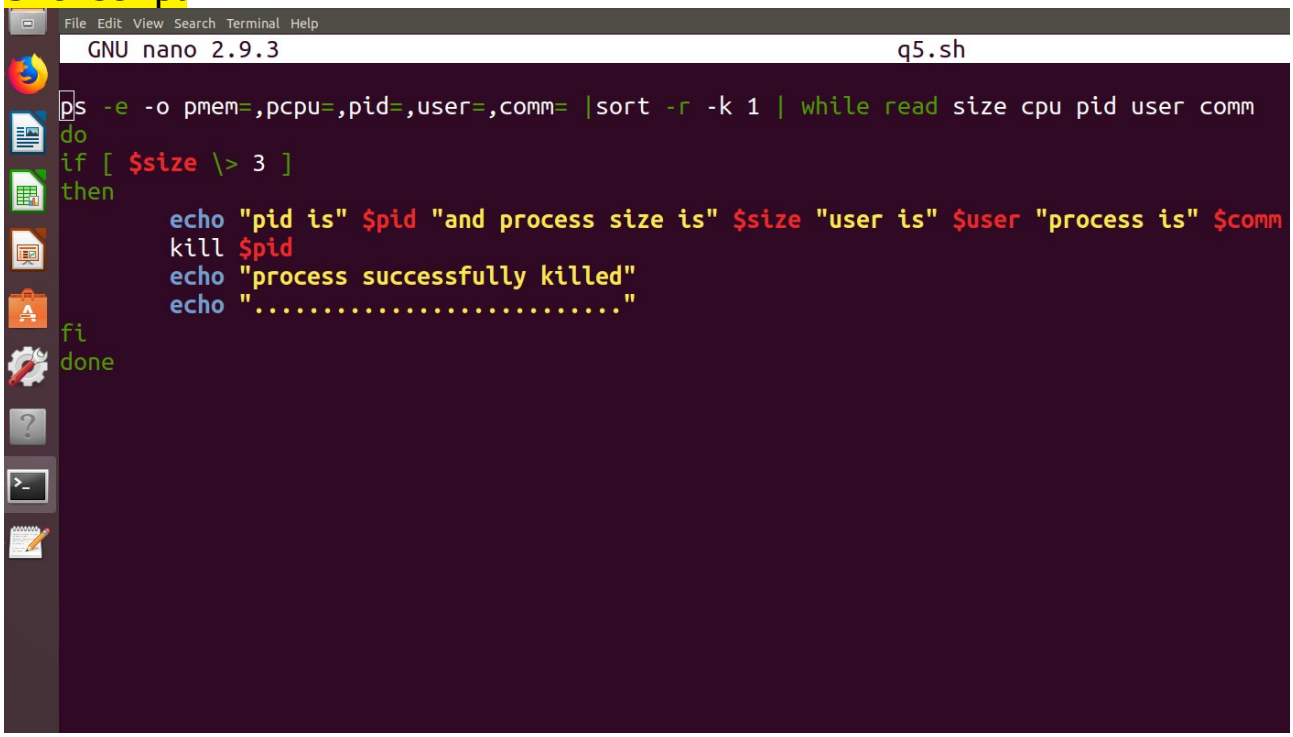
output



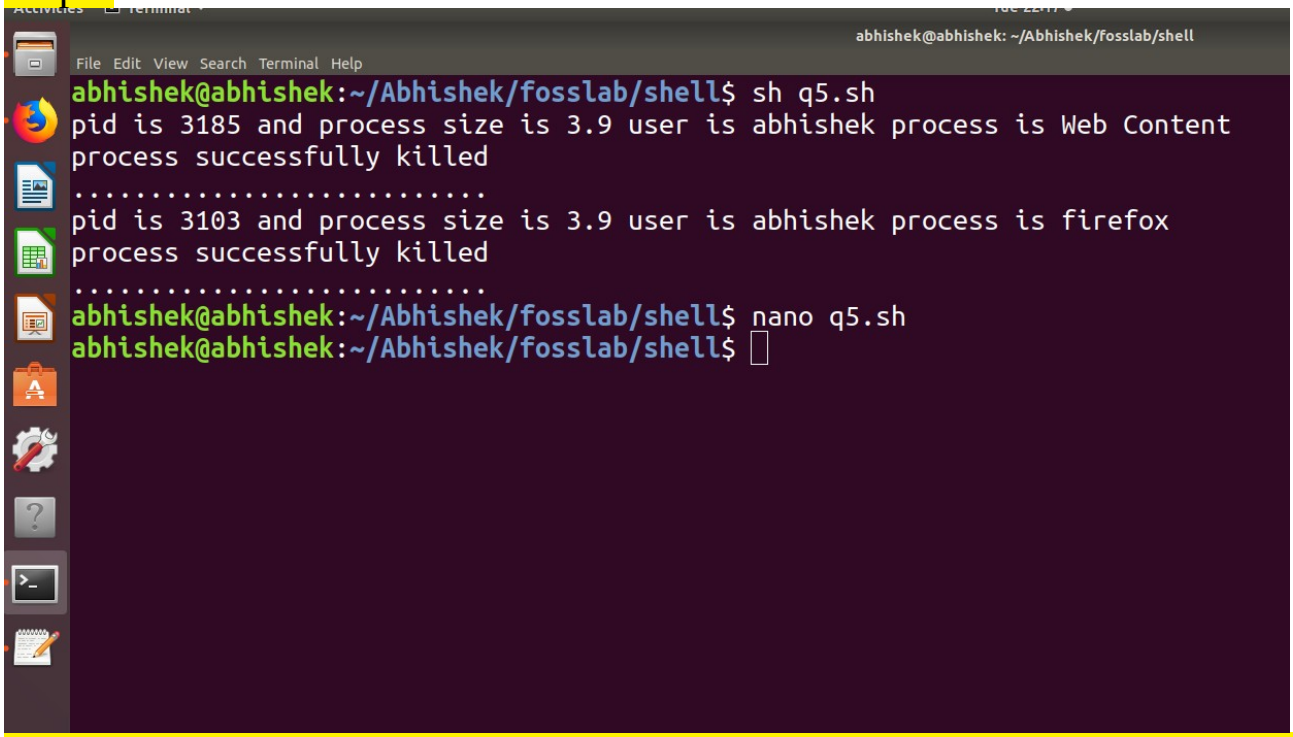
```
File  Edit  View  Search  Terminal  Help
abhishek@abhishek:~/Abhishek/fosslab/shell$ cat ulist
arther
mary
lianda
abhishek@abhishek:~/Abhishek/fosslab/shell$ sh addnames.sh 1
You must enter two command line arguments
abhishek@abhishek:~/Abhishek/fosslab/shell$ sh addnames.sh wrongfile 2
You have entered arguments correctly
error wrongfile not found.
abhishek@abhishek:~/Abhishek/fosslab/shell$ sh addnames.sh ulist mary
You have entered arguments correctly
ulist  found.
The name already Exist
abhishek@abhishek:~/Abhishek/fosslab/shell$ sh addnames.sh ulist abhishek
You have entered arguments correctly
ulist  found.
The name was absent Dont worry we will add
New modified content is
arther
mary
lianda
abhishek
abhishek@abhishek:~/Abhishek/fosslab/shell$
```

5. Write a Shell script which starts on system boot up and kills every process which
uses more than a specified amount of memory or CPU.

Shellscript



output



submitted by
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