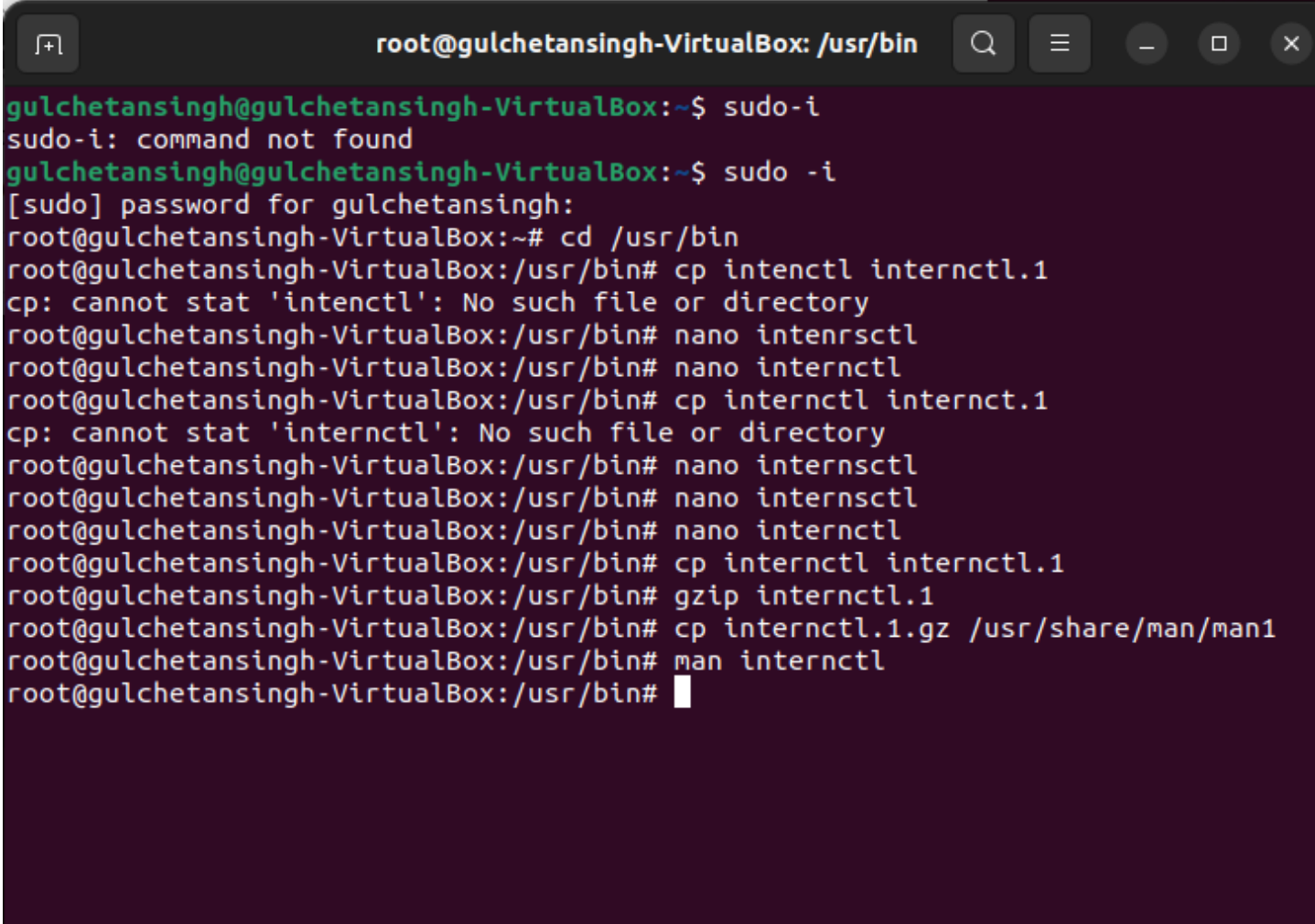# Section A

**1. I want a manual page of command so that I can see the full documentation of the command.**

**Man page for the command**

```
man internctl
Code:-
```

```
root@gulchetansingh-VirtualBox: /usr/bin

gulchetansingh@gulchetansingh-VirtualBox:~$ sudo-i
sudo-i: command not found
gulchetansingh@gulchetansingh-VirtualBox:~$ sudo -i
[sudo] password for gulchetansingh:
root@gulchetansingh-VirtualBox:~# cd /usr/bin
root@gulchetansingh-VirtualBox:/usr/bin# cp intenctl internctl.1
cp: cannot stat 'intenctl': No such file or directory
root@gulchetansingh-VirtualBox:/usr/bin# nano intenrsctl
root@gulchetansingh-VirtualBox:/usr/bin# nano internctl
root@gulchetansingh-VirtualBox:/usr/bin# cp internctl internct.1
cp: cannot stat 'internctl': No such file or directory
root@gulchetansingh-VirtualBox:/usr/bin# nano internsctl
root@gulchetansingh-VirtualBox:/usr/bin# nano internsctl
root@gulchetansingh-VirtualBox:/usr/bin# nano internctl
root@gulchetansingh-VirtualBox:/usr/bin# cp internctl internctl.1
root@gulchetansingh-VirtualBox:/usr/bin# gzip internctl.1
root@gulchetansingh-VirtualBox:/usr/bin# cp internctl.1.gz /usr/share/man/man1
root@gulchetansingh-VirtualBox:/usr/bin# man internctl
root@gulchetansingh-VirtualBox:/usr/bin#
```

**Output: -**



```
NAME
   internc -a custom command to report some utilities SYNOPSIS
   ls [OPTION]... [FILE] DESCRIPTION
   lists the information about the file and the system

 -s, --size It gives the size of file.
 -p, --permissions  It gives the permissions of file.
  o, --owner gives the owner of the file.
  m, --last-modified gives the last modified date and time of the
file

 Manual page internctl(1) line 1/11 (END) (press h for help or q to quit)
```

**2. Each linux command has an option `--help` which helps the end user to understand the use cases via examples. Similarly if I execute `internsctl --help` it should provide me the necessary help.**

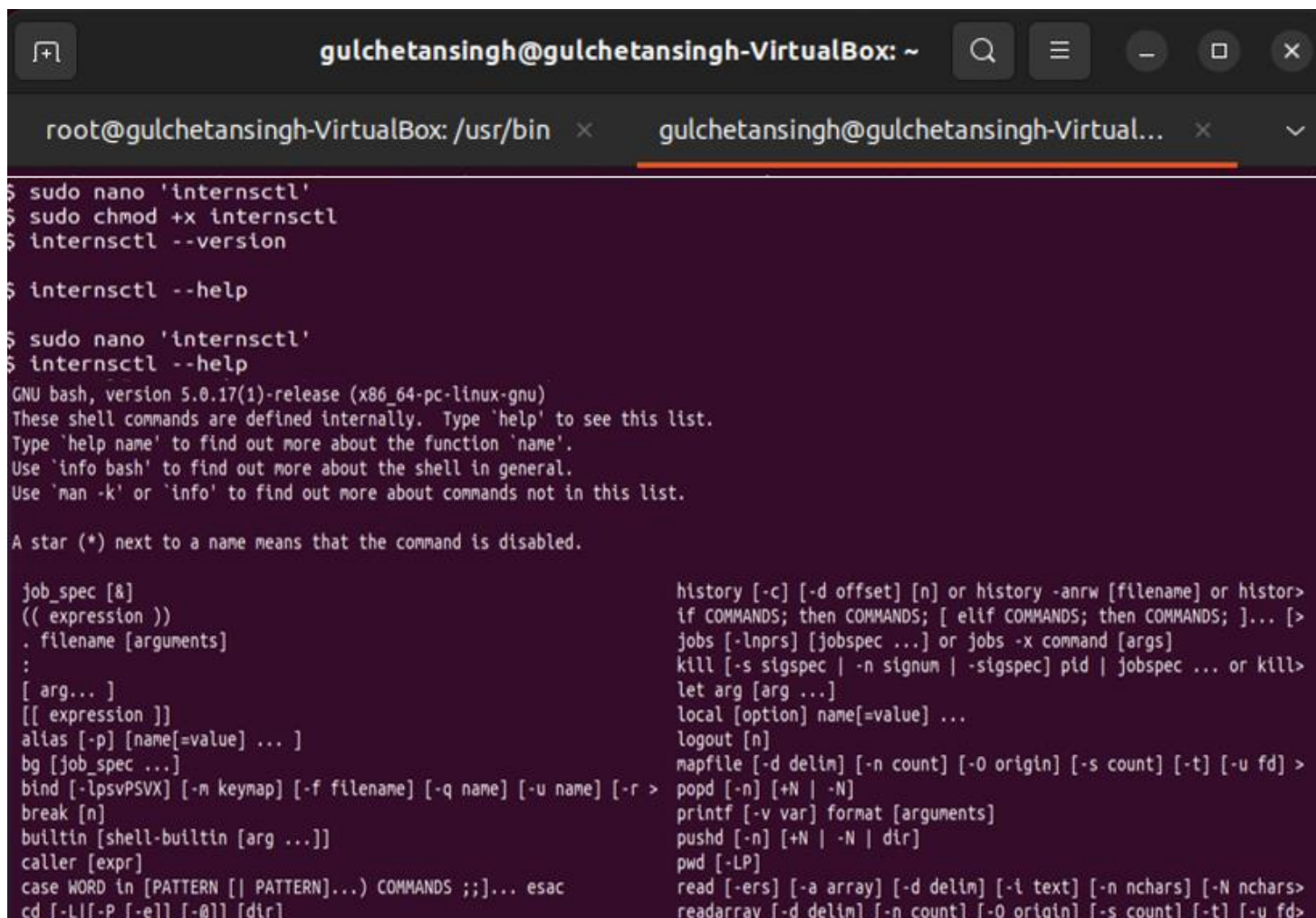**3. I want to see version of my command by executing**

`internsctl —version`

**File internsctl --version**

**code**

**echo "v0.1.0"**

**Output:**



```
gulchetansingh@gulchetansingh-VirtualBox: ~          Q    ≡    —    □    ×

 root@gulchetansingh-VirtualBox: /usr/bin   ×      gulchetansingh@gulchetansingh-Virtual...   ×      ∨

$ sudo nano 'internsctl'
$ sudo chmod +x internsctl
$ internsctl --version

$ internsctl --help

$ sudo nano 'internsctl'
$ internsctl --help
GNU bash, version 5.0.17(1)-release (x86_64-pc-linux-gnu)
These shell commands are defined internally.  Type `help' to see this list.
Type `help name' to find out more about the function `name'.
Use `info bash' to find out more about the shell in general.
Use `man -k' or `info' to find out more about commands not in this list.

A star (*) next to a name means that the command is disabled.

 job_spec [&]                                    history [-c] [-d offset] [n] or history -anrw [filename] or histor>
 (( expression ))                                if COMMANDS; then COMMANDS; [ elif COMMANDS; then COMMANDS; ]... [>
 . filename [arguments]                          jobs [-lnprs] [jobspec ...] or jobs -x command [args]
 :                                               kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill>
 [ arg... ]                                      let arg [arg ...]
 [[ expression ]]                                local [option] name[=value] ...
 alias [-p] [name[=value] ... ]                  logout [n]
 bg [job_spec ...]                               mapfile [-d delim] [-n count] [-O origin] [-s count] [-t] [-u fd] >
 bind [-lpsvPSVX] [-m keymap] [-f filename] [-q name] [-u name] [-r >  popd [-n] [+N | -N]
 break [n]                                       printf [-v var] format [arguments]
 builtin [shell-builtin [arg ...]]               pushd [-n] [+N | -N | dir]
 caller [expr]                                   pwd [-LP]
 case WORD in [PATTERN [| PATTERN]...) COMMANDS ;;]... esac    read [-ers] [-a array] [-d delim] [-i text] [-n nchars] [-N nchars>
 cd [-L|[-P [-e]] [-@]] [dir]                     readarray [-d delim] [-n count] [-O origin] [-s count] [-t] [-u fd>
```

# Section B

## Part1:

**1. I want to get cpu information of my server through the following command:**

**Internsctl cpu getinfo:**



```
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ sudo nano 'internsctl cpu getinfo'
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ sudo chmod +x internsctl\ cpu\ getinfo
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ internsctl\ cpu\ getinfo
Architecture:                    x86_64
CPU op-mode(s):                  32-bit, 64-bit
Byte Order:                      Little Endian
Address sizes:                   39 bits physical, 48 bits virtual
CPU(s):                          1
On-line CPU(s) list:             0
Thread(s) per core:              1
Core(s) per socket:              1
Socket(s):                       1
NUMA node(s):                    1
Vendor ID:                       GenuineIntel
CPU family:                      6
Model:                           78
Model name:                      Intel(R) Core(TM) i3-6006U CPU @ 2.00GHz
Stepping:                        3
CPU MHz:                         1992.001
BogoMIPS:                        3984.00
Hypervisor vendor:               KVM
Virtualization type:             full
L1d cache:                       32 KiB
L1i cache:                       32 KiB
L2 cache:                        256 KiB
L3 cache:                        3 MiB
NUMA node0 CPU(s):               0
Vulnerability Itlb multihit:     KVM: Vulnerable
Vulnerability L1tf:              Mitigation; PTE Inversion
Vulnerability Mds:               Mitigation; Clear CPU buffers; SMT Host state unknown
Vulnerability Meltdown:          Mitigation; PTI
Vulnerability Spec store bypass: Vulnerable
Vulnerability Spectre v1:        Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:        Mitigation; Full generic retpoline, STIBP disabled, RSB filling
Vulnerability Srbds:             Unknown: Dependent on hypervisor status
```

**2. I want to get memory information of my server through the following command:**

**$Internsctl memory getinfo:**
 **File internsctl memory getinfo:**
**Code:**



## Part2

1.  **I want to create a new user on my server through the following command:**

 **$  internsctl user create <username>**

**File internsctl user create**



### Code

```
#! /bin/bash

if id "$1" &>/dev/null;
    then
        echo "User $1 already exists."
        echo "please chose another username."
     exit

else
    read -p "password " pswd
    useradd -p "$pswd" -d /home/"$1" -m -g users -s /bin/bash "$1"
    echo "$1 added"
   fi
```

1. **I want to list all the regular users present on my server through the following command:**

#! /bin/bash
cat /etc/passwd

```
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ sudo nano 'internctl user list'
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ sudo chmod +x internctl\ user\ list
gulchetansingh@gulchetansingh-VirtualBox:/usr/bin$ ./internctl\ user\ list
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
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
_apt:x:105:65534::/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:114::/run/uuidd:/usr/sbin/nologin
tcpdump:x:108:115::/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:109:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:110:46:usbmux daemon...:/var/lib/usbmux:/usr/sbin/nologin
```

2. **If want to list all the users with sudo permissions on my server through the following command:**

**File internsctl user list --sudo-only**

**Code**

#!/bin/sh

getent group sudo

# Part3

**By executing below command I want to get some information about a file**

$ internsctl file getinfo <file-name>

Expected Output

```
xenonstack@xsd-034:~$ internsctl file getinfo hello.txt
    File:    hellot.txt
  Access:    -rw-r--r--
Size(B):     5448
   Owner:    xenonstack
  Modify:    2020-10-07 20:34:44.616123431 +0530.
```

## Code:

```bash
#! /bin/bash

if [[ "$#" -eq 1 ]];
  then
    ls -l $1

elif [[ "$#" -eq 2 ]];
 then

  if [ "$1" == "-s" ] || [ "$1" == "--size" ]
    then
      wc -c $2

  elif [ "$1" == "-p" ] || [ "$1" == "--permissions" ]
    then
      ls -ld $2 |awk '{ print $1; }'

  elif [ "$1" == "o" ] || [ "$1" == "--owner" ]
    then
      stat -c '%U' $2

  elif [ "$1" == "m" ] || [ "$1" == "--last-modified" ]
   then
      stat -c '%y' $2
    fi
fi
```