QUESTION:-1

IF YOU FORGET PASSWORD HOW WILL YOU RESET IT?

```
user@user-VirtualBox:~$ sudo -s
[sudo] password for user:
root@user-VirtualBox:~# passwd user
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
root@user-VirtualBox:~#
```

```
        GNU GRUB  version 2.02~beta2-9ubuntu1

 ┌─────────────────────────────────────────────────────────────────────┐
 │*Ubuntu                                                               │
 │ Advanced options for Ubuntu                                          │
 │ Memory test (memtest86+)                                             │
 │ Memory test (memtest86+, serial console 115200)                     │
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       Use the ↑ and ↓ keys to select which entry is highlighted.
       Press enter to boot the selected OS, `e' to edit the commands
       before booting or `c' for a command-line.
```
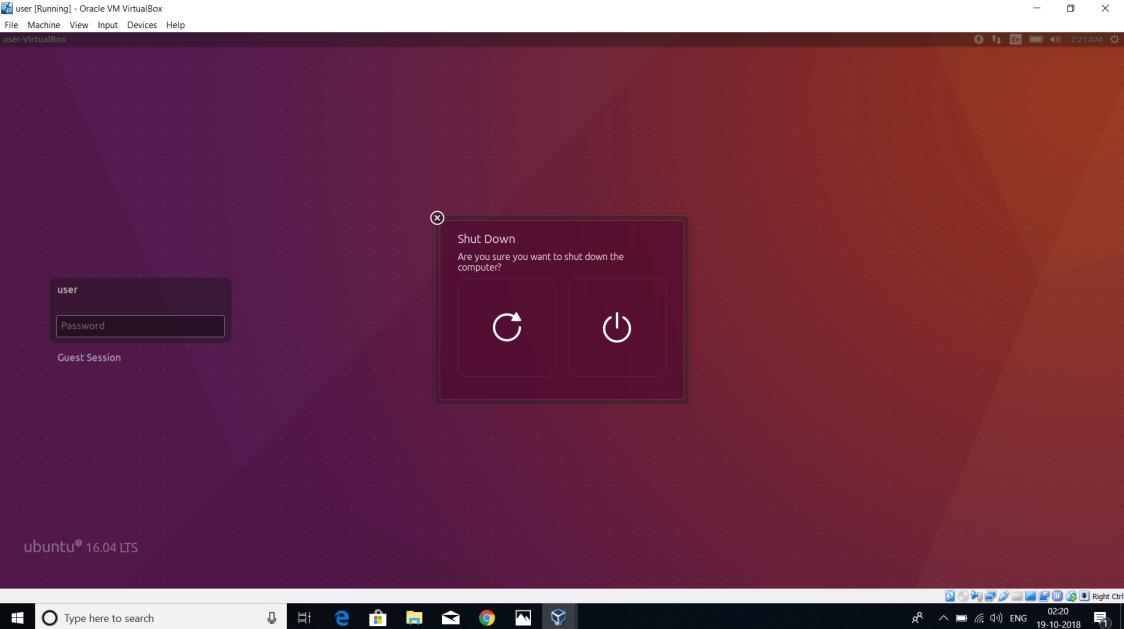
```
          GNU GRUB   version 2.02~beta2-9ubuntu1

 ┌──────────────────────────────────────────────────────────────────────┐
 │ Ubuntu                                                                 │
 │*Advanced options for Ubuntu                                            │
 │ Memory test (memtest86+)                                               │
 │ Memory test (memtest86+, serial console 115200)                        │
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     Use the ↑ and ↓ keys to select which entry is highlighted.
     Press enter to boot the selected OS, `e' to edit the commands
     before booting or `c' for a command-line.
```

```
          GNU GRUB   version 2.02~beta2-9ubuntu1

 ┌──────────────────────────────────────────────────────────────────┐
 │ Ubuntu, with Linux 3.13.0-32-generic                               │
 │*Ubuntu, with Linux 3.13.0-32-generic (recovery mode)               │
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      Use the ↑ and ↓ keys to select which entry is highlighted.
      Press enter to boot the selected OS, `e' to edit the commands
      before booting or `c' for a command-line. ESC to return previous
      menu.
```

```
Recovery Menu (filesystem state: read-only)

        resume            Resume normal boot
        clean             Try to make free space
        dpkg              Repair broken packages
        failsafeX         Run in failsafe graphic mode
        fsck              Check all file systems
        grub              Update grub bootloader
        network           Enable networking
        root              Drop to root shell prompt
        system-summary    System summary


                        <Ok>
```

```
root@programmingknowledge-VirtualBox:~# mount -n -o remount,rw /
root@programmingknowledge-VirtualBox:~# passwd programmingknowledge
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

QUESTION:-2

WRITE A COMMAND TO FIND A FILE WITH PARTICULAR EXTENSION
AND CONTAINS PARTICULAR WORD (STRING) IN THE FILE.

```
user@user-VirtualBox:~$ cat puns
cat: puns: No such file or directory
user@user-VirtualBox:~$ cat > puns
THIS IS THE FIRST LINE
this is the second Line
and this is the third line
user@user-VirtualBox:~$ grep line puns
and this is the third line
user@user-VirtualBox:~$ grep-i line puns
grep-i: command not found
user@user-VirtualBox:~$ grep -i line puns
THIS IS THE FIRST LINE
this is the second Line
and this is the third line
user@user-VirtualBox:~$ grep -n line puns
3:and this is the third line
user@user-VirtualBox:~$ grep -in line puns
1:THIS IS THE FIRST LINE
2:this is the second Line
3:and this is the third line
user@user-VirtualBox:~$
```

QUESTION:-3

CREATE A DIRECTORY AND MOVE IN THE DIRECTORY. CREATE ANOTHER DIRECTORY INSIDE THIS DIRECTORY AND MOVE IN IT WRITE A SINGLE COMMAND TO COME OUT IN THE ORIGINAL DIRECTORY.

```
user@user-VirtualBox: ~

user@user-VirtualBox:~$ mkdir puneet
user@user-VirtualBox:~$ cd puneet
user@user-VirtualBox:~/puneet$ mkdir
mkdir: missing operand
Try 'mkdir --help' for more information.
user@user-VirtualBox:~/puneet$ mkdir pun
user@user-VirtualBox:~/puneet$ cd pun
user@user-VirtualBox:~/puneet/pun$ cd ../..
user@user-VirtualBox:~$
```

QUESTION:-4

COMMANDS USED FOR FINDING MEMORY USAGE.

```
user@user-VirtualBox:~$ free
              total        used        free      shared  buff/cache   available
Mem:        2041816      686496      584496       11236      770824     1169188
Swap:        998396           0      998396
user@user-VirtualBox:~$ man free
```

NAME

      free - Display amount of free and used memory in the system

SYNOPSIS

      free [options]

DESCRIPTION

      free displays the total amount of free and used physical and swap memory in the
      system, as well as the buffers and caches used by the kernel. The information is
      gathered by parsing /proc/meminfo. The displayed columns are:

      total Total installed memory (MemTotal and SwapTotal in /proc/meminfo)

      used   Used memory (calculated as **total** - **free** - **buffers** - **cache**)

      free   Unused memory (MemFree and SwapFree in /proc/meminfo)

      shared Memory used (mostly) by tmpfs (Shmem in /proc/meminfo, available on kernels
             2.6.32, displayed as zero if not available)

      buffers

QUESTION:-5

WHY LINUX IS MORE SECURED THAN OTHER OPERATING SYSTEMS?

Why Linux is more secure than other operating systems?

ANS:-

 Linux is an open operating system, the codes which can be read by everyone, but still accept more secure in comparison with other OS.Linux is growing rapidly in the market because there are more devices based on Linux, and that is why more people trust Linux.

1.

In the operating system such as Windows, users have full admin access to the accounts of software. When the virus strikes in this system and then within few seconds it corrupts the whole system. In short, all the files are in danger due to the open access, but in the Linux, very low access is given to the users. Thus the viruses can't attack the whole system and they only attack few files, and other system works without any issue.

2.

A Proper log is established in the Linux of the timing and it can be viewed later on easily. If someone tries to enter safe system files, these system gaps can be viewed by the system administrator. Also, the disk to fail attempts are presented to read for later on.

3.

The number of users in the Linux operating system is lesser than the iOS or Windows user. Thus fewer people are using Linux system makes it more secure as compared to the overly crowded operating system Windows.

4.

Windows and other operating systems are more vulnerabilities to the type of social engineering Ltd compared to Linux. Amateur users can easily expose to the viruses in other OS by opening one email. But this is not the case in the Linux and user needs full execution right before opening any new attachment.Thus web developers and testers prefer this system as it saves them from the vulnerabilities.

5.

A high tech security of IPtables is used by the Linux to enhance the security circle of the system. This firewall that allows you to create a more secure environment for the execution of any command or access the network.

6.

Linux system operates in the different environment such as such as Linux Mint, Debian, Ubuntu, Gentoo, Arch, and many others. The division and segmented working environment protect from the attack of the virus.On the other hand, Windows isn't much divided operating system and thus it is more exposed to the threats.

Well, saying that the Linux is 100% secure operating system is impossible as no OS is fully secured. To make the systems fully secure further software's are required, but still, Linux has few features which make it more secure than the other operating software.

QUESTION:-6

WHICH COMMAND MUST BE USED TO SEARCH THE COMMAND WITHOUT KNOWING ITS EXACT NAME?

ANSWER

FOR THIS PURPOSE WE CAN MAKE USE OF "apropos" COMMAND

NAME

       apropos - search the manual page names and descriptions

SYNOPSIS

       apropos [-dalv?V] [-e|-w|-r] [-s list] [-m system[,...]] [-M path] [-L
       locale] [-C file] keyword ...

DESCRIPTION

       Each manual page has a short description available within it.   **apropos**
       searches the descriptions for instances of keyword.

       keyword is usually a regular expression, as if (**-r**) was used, or may
       contain wildcards (**-w**), or match the exact keyword (**-e**).   Using these
       options, it may be necessary to quote the keyword or escape (\) the
       special characters to stop the shell from interpreting them.

       The standard matching rules allow matches to be made against the page
       name and word boundaries in the description.

       The database searched by **apropos** is updated by the **mandb** program.
       Depending on your installation, this may be run by a periodic cron job,