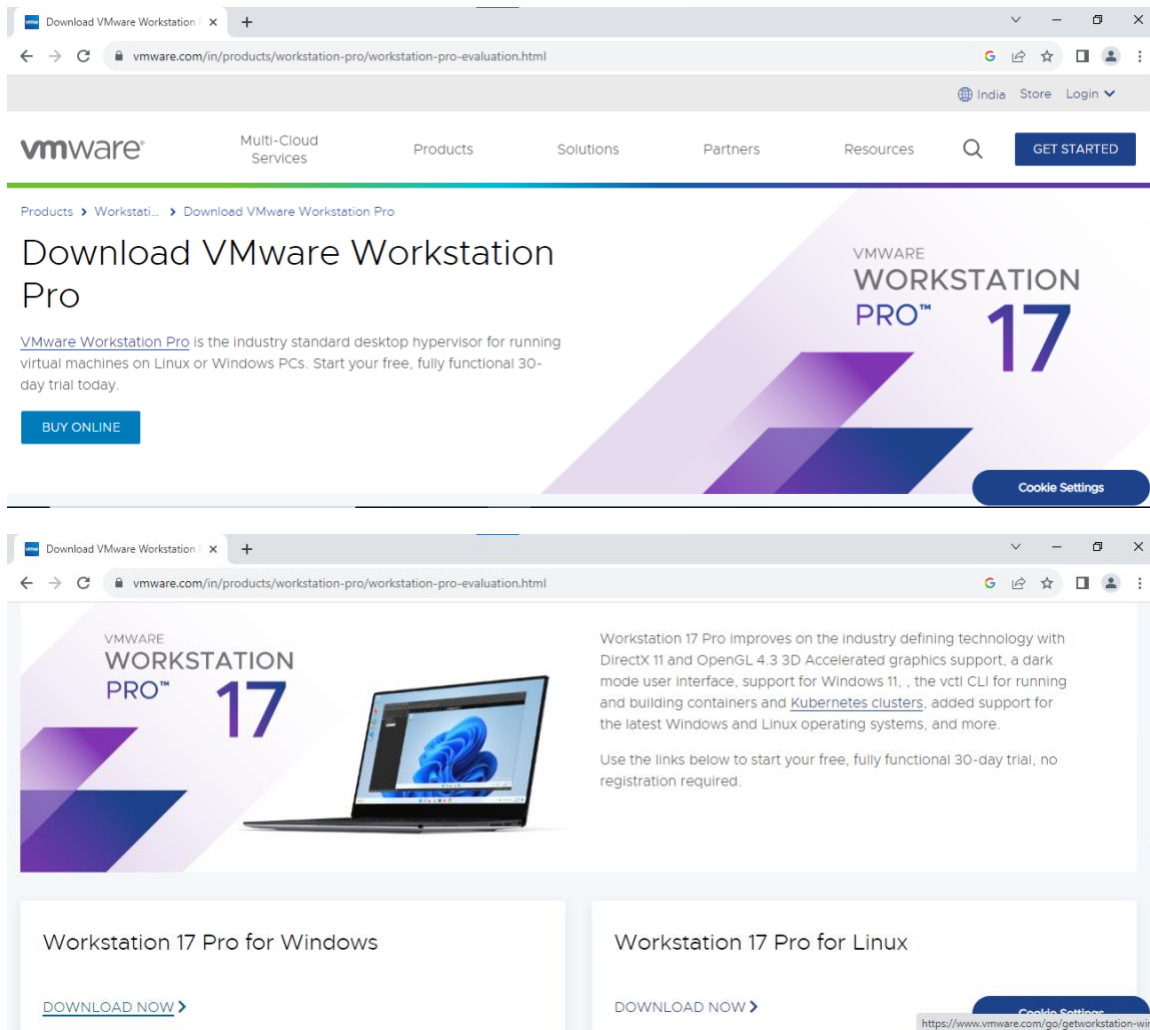# Practical 1

1.Installation and Configuration of virtual machine
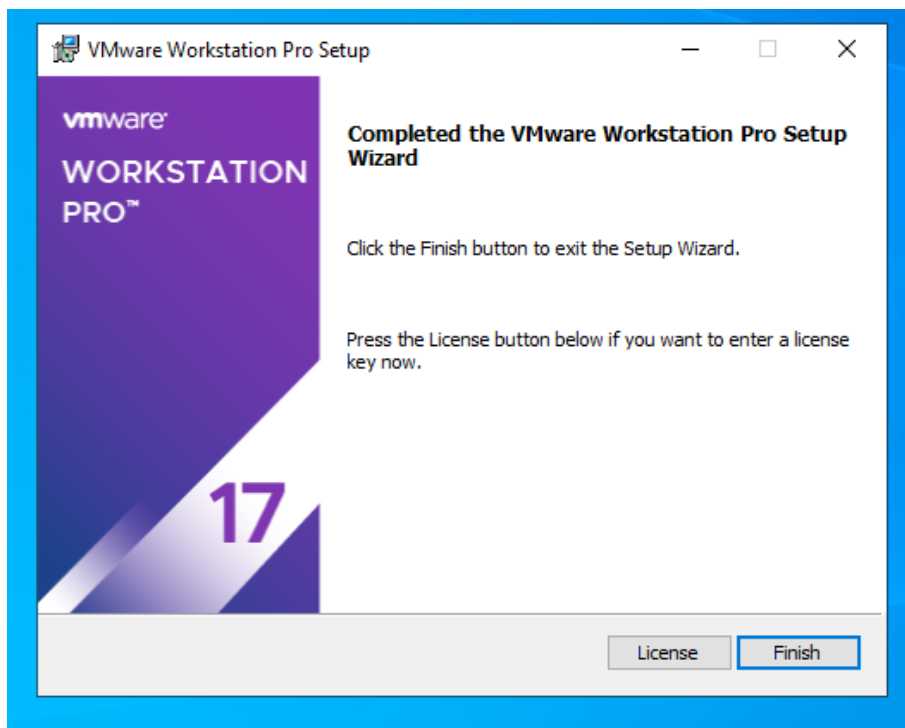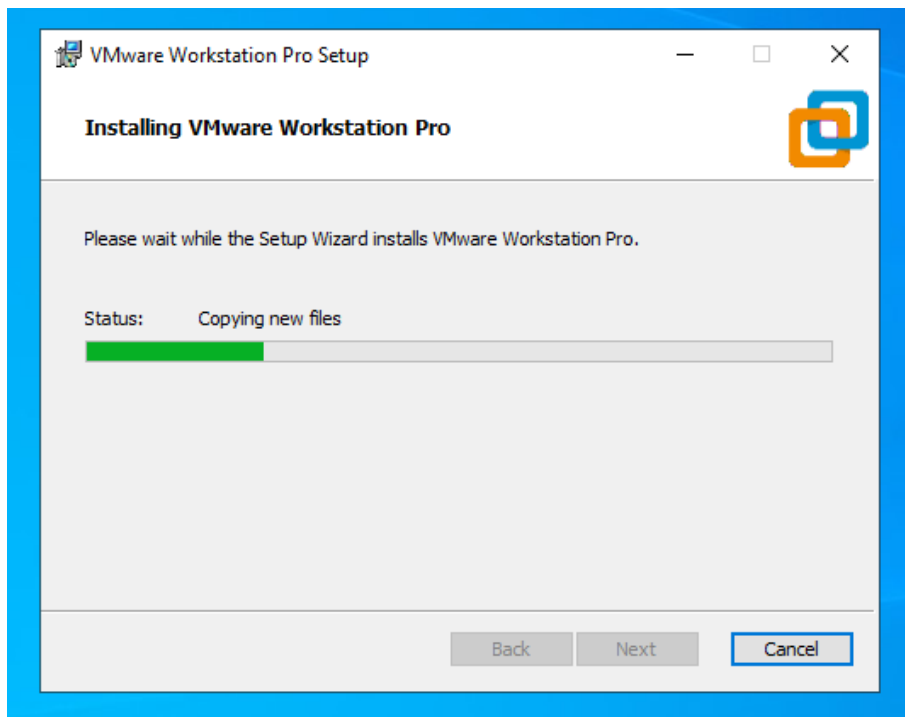
Aim: Installation of **Virtual machine** software and **Linux OS** on Virtual Machine.
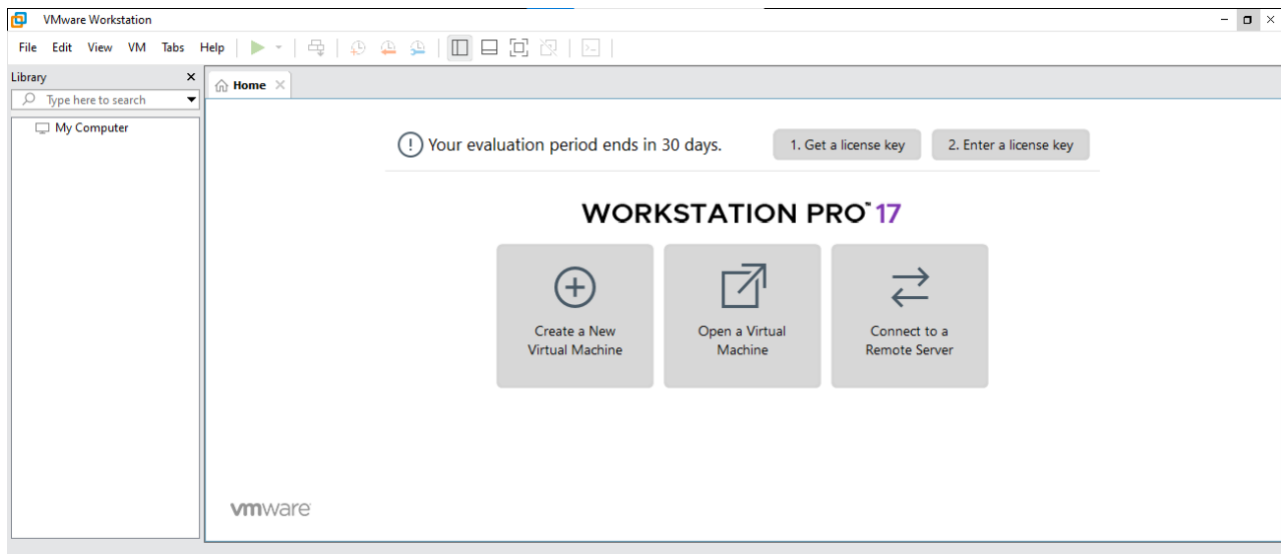
Procedure:

Step 1: Download the Virtual machine software from the Internet.
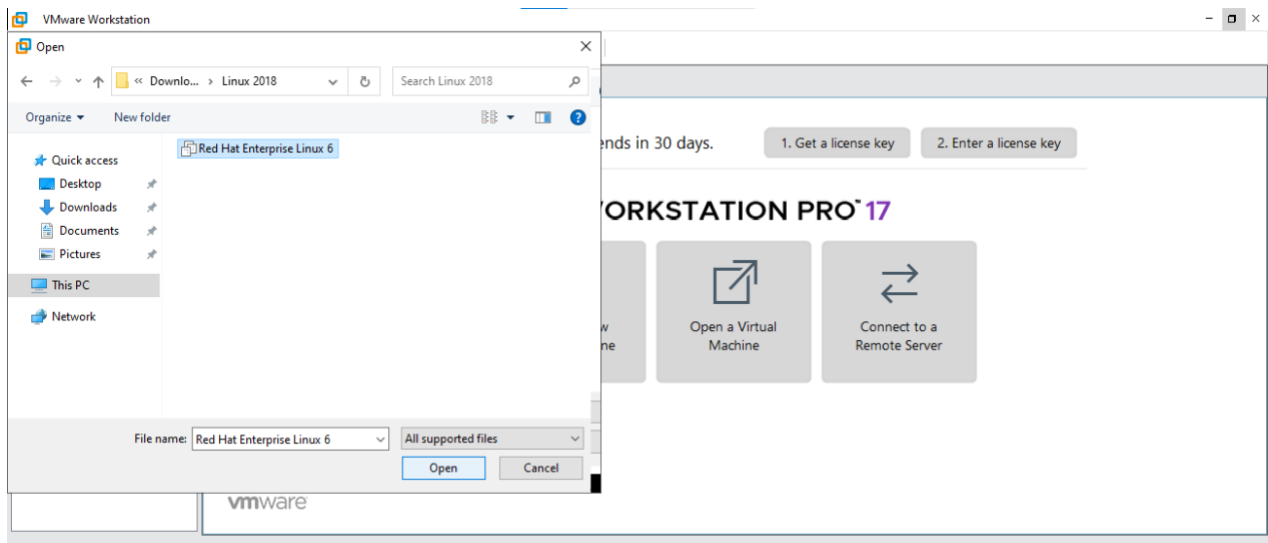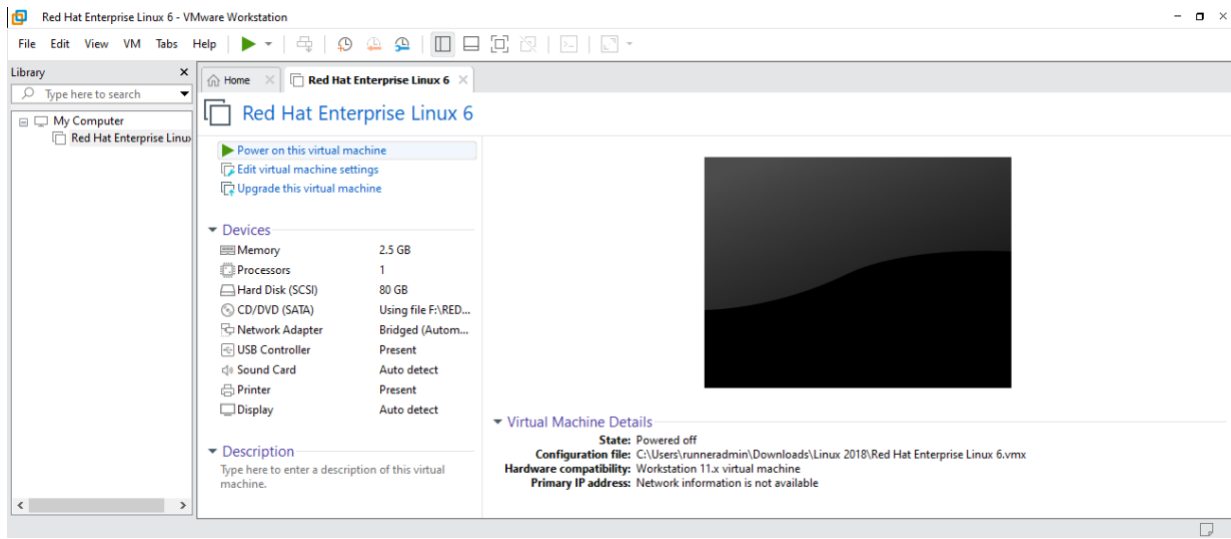
Step 2: Run VMware installation setup.

Step 3: Open virtual machine software installed on your operating system.
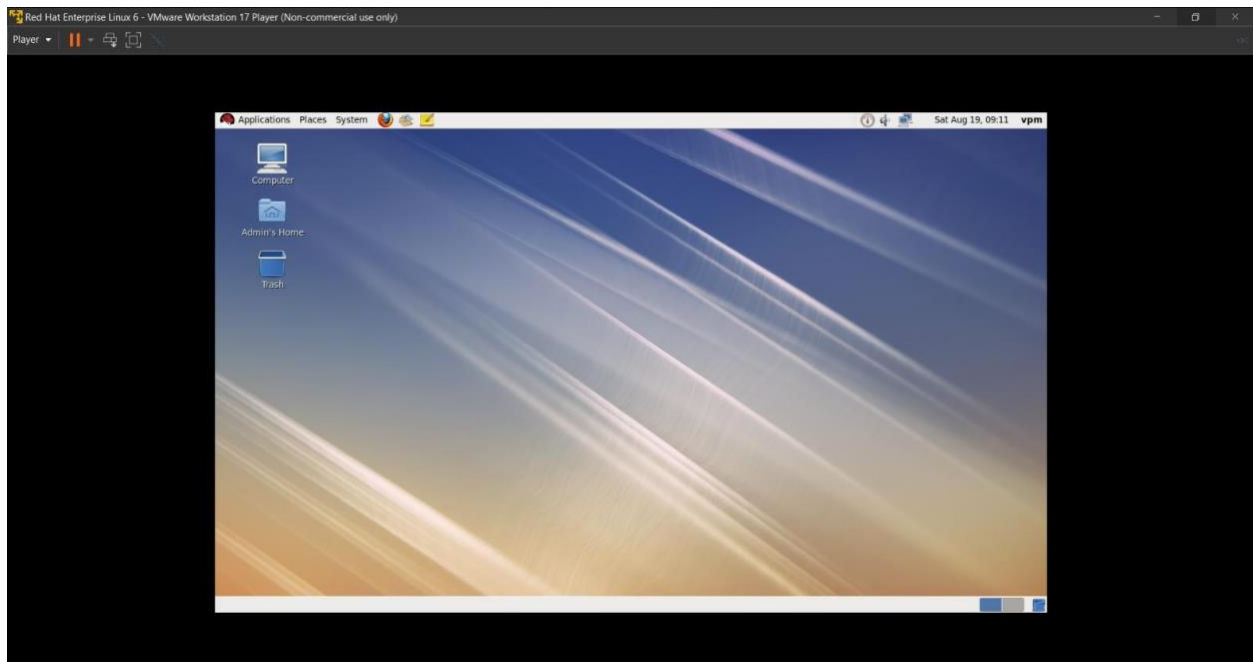

Step 4: Click on (Open a Virtual Machine) option in VMware software.

Step 5: Final step is to click on install and wait for installation process to be finish.

Now our Red Hat Enterprise Linux 6 Operating system is installed.

Practical 2

2. Windows (DOS) Commands

2a Date, time, prompt,

```
C:\>date
The current date is: 06-07-2023
Enter the new date: (dd-mm-yy)

C:\>time
The current time is:  2:49:58.58
Enter the new time:

C:\>prompt $d

06-07-2023prompt

C:\>prompt $t

 2:50:26.88prompt

C:\>
```

md, cd, rd, path

```
C:\>md abc

C:\>cd abc

C:\abc>md newdic

C:\abc>dir
 Volume in drive C is Windows
 Volume Serial Number is 3018-0C3D

 Directory of C:\abc

06-07-2023  02:51    <DIR>          .
06-07-2023  02:51    <DIR>          newdic
              0 File(s)          0 bytes
              2 Dir(s)  100,545,101,824 bytes free

C:\abc>rd newdic

C:\abc>dir
 Volume in drive C is Windows
 Volume Serial Number is 3018-0C3D

 Directory of C:\abc

06-07-2023  02:52    <DIR>          .
              0 File(s)          0 bytes
              1 Dir(s)  100,552,871,936 bytes free

C:\abc>path
PATH=C:\Program Files (x86)\VMware\VMware Player\bin\;C:\Program Files\Common Files\Oracle\Java\javapath;C:\oraclexe\app\oracle\product\11.2.0\server\bin;C:
\windows\system32;C:\windows;C:\windows\System32\Wbem;C:\windows\System32\WindowsPowerShell\v1.0\;C:\windows\System32\OpenSSH\;C:\Program Files\nodejs\;C:\P
rogram Files\Git\cmd;C:\Users\Akash Gupta\AppData\Local\Programs\Python\Python311\Scripts\;C:\Users\Akash Gupta\AppData\Local\Programs\Python\Python311\;C:\
Users\Akash Gupta\AppData\Local\Microsoft\WindowsApps;C:\Users\Akash Gupta\AppData\Local\Programs\Microsoft VS Code\bin;C:\Users\Akash Gupta\AppData\Roaming
\npm;C:\src\flutter\bin;

C:\abc>
```

2b copy, xcopy,


```
Administrator: Command Prompt                                    —    □    ✕

Microsoft Windows [Version 10.0.20348.1850]
(c) Microsoft Corporation. All rights reserved.

C:\Users\runneradmin>cd\

C:\>md one

C:\>md two

C:\>cd one

C:\one>copy con abc.txt
This is 1st file.
^Z
        1 file(s) copied.

C:\one>copy con def.txt
This is 2nd file.
^Z
        1 file(s) copied.

C:\one>dir
 Volume in drive C is Windows
 Volume Serial Number is 6ED5-CD9B

 Directory of C:\one

08/24/2023  07:36 PM    <DIR>             .
08/24/2023  07:35 PM                19 abc.txt
08/24/2023  07:36 PM                19 def.txt
               2 File(s)             38 bytes
               1 Dir(s)  77,576,581,120 bytes free

C:\one>cd\

C:\>xcopy /f c:\one c:\two
C:\one\abc.txt -> C:\two\abc.txt
C:\one\def.txt -> C:\two\def.txt
2 File(s) copied

C:\>cd two

C:\two>dir
 Volume in drive C is Windows
 Volume Serial Number is 6ED5-CD9B

 Directory of C:\two

08/24/2023  07:38 PM    <DIR>             .
08/24/2023  07:35 PM                19 abc.txt
08/24/2023  07:36 PM                19 def.txt
               2 File(s)             38 bytes
               1 Dir(s)  77,576,581,120 bytes free

C:\two>
```

del,cls,

Administrator: Command Prompt

```
Microsoft Windows [Version 10.0.20348.1906]
(c) Microsoft Corporation. All rights reserved.

C:\Users\runneradmin>cd\

C:\>copy con b.txt
Hello World!!
^Z
        1 file(s) copied.

C:\>type b.txt
Hello World!!

C:\>del b.txt

C:\>type b.txt
The system cannot find the file specified.

C:\>
```

Administrator: Command Prompt

```
C:\>
```

move, echo


```
Administrator: Command Prompt                                    —    □    ✕
Microsoft Windows [Version 10.0.20348.1906]
(c) Microsoft Corporation. All rights reserved.

C:\Users\runneradmin>cd\

C:\>md folder

C:\>cd folder

C:\folder>copy con newfile.txt
This file will be used for the move command.
^Z
        1 file(s) copied.

C:\folder>md newfolderr

C:\folder>dir
 Volume in drive C is Windows
 Volume Serial Number is C8F3-43A1

 Directory of C:\folder

08/24/2023  09:18 PM    <DIR>          .
08/24/2023  09:17 PM                46 newfile.txt
08/24/2023  09:18 PM    <DIR>          newfolderr
               1 File(s)             46 bytes
               2 Dir(s)  67,283,320,832 bytes free

C:\folder>move newfile.txt newfolderr
        1 file(s) moved.

C:\folder>dir
 Volume in drive C is Windows
 Volume Serial Number is C8F3-43A1

 Directory of C:\folder

08/24/2023  09:19 PM    <DIR>          .
08/24/2023  09:19 PM    <DIR>          newfolderr
               0 File(s)              0 bytes
               2 Dir(s)  67,289,845,760 bytes free

C:\folder>
```

```
Select Administrator: Command Prompt                                    —    □    ✕
C:\>echo
ECHO is on.

C:\>echo This is Testing > computer.txt

C:\>type computer.txt
This is Testing

C:\>echo Testing continue >>computer.txt

C:\>computer.txt

C:\>
```

```
computer - Notepad                          —    □    ✕
File  Edit  Format  View  Help
This is Testing
Testing continue
|

                    Ln 3, Col 1      100%   Windows (CRLF)   UTF-8
```

2c Edit,

 fc,

```
Administrator: Command Prompt

C:\Nishant>copy con fileone.txt
This is my first program.
Hello How are?
^Z
        1 file(s) copied.

C:\Nishant>copy con filetwo.txt
What is your name?
^Z
        1 file(s) copied.

C:\Nishant>fc fileone.txt filetwo.txt
Comparing files fileone.txt and FILETWO.TXT
***** fileone.txt
This is my first program.
Hello How are?
***** FILETWO.TXT
What is your name?
*****


C:\Nishant>_
```

find, rename,

```
C:\>cd nishant

C:\nishant>copy con g.txt
this is my first program.^Z
        1 file(s) copied.

C:\nishant>findstr my g.txt
this is my first program.
C:\nishant>
```

```
C:\nishant>copy con s.txt
this is a file for rename command.
^Z
        1 file(s) copied.

C:\nishant>ren s.txt t.txt

C:\nishant>type s.txt
The system cannot find the file specified.

C:\nishant>type t.txt
this is a file for rename command.

C:\nishant>
```

set, type, ver

```
C:\>cd nishant

C:\nishant>copy con file1.txt
this is a file for type command.
^Z
        1 file(s) copied.

C:\nishant>type file1.txt
this is a file for type command.

C:\nishant>set p
Path=C:\Program Files (x86)\VMware\VMware Player\bin\;C:\Program Files\Common Files\Oracle\Java\javapath;C:\oraclexe\app\oracle\product\11.2.0\server\bin;C:
\windows\system32;C:\windows;C:\windows\System32\Wbem;C:\windows\System32\WindowsPowerShell\v1.0\;C:\windows\System32\OpenSSH\;C:\Program Files\nodejs\;C:\P
rogram Files\Git\cmd;C:\Users\Akash Gupta\AppData\Local\Programs\Python\Python311\Scripts\;C:\Users\Akash Gupta\AppData\Local\Programs\Python\Python311\;C:\
Users\Akash Gupta\AppData\Local\Microsoft\WindowsApps;C:\Users\Akash Gupta\AppData\Local\Programs\Microsoft VS Code\bin;C:\Users\Akash Gupta\AppData\Roaming
\npm;C:\src\flutter\bin;
PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
platformcode=KV
PROCESSOR_ARCHITECTURE=AMD64
PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 140 Stepping 2, GenuineIntel
PROCESSOR_LEVEL=6
PROCESSOR_REVISION=8c02
ProgramData=C:\ProgramData
ProgramFiles=C:\Program Files
ProgramFiles(x86)=C:\Program Files (x86)
ProgramW6432=C:\Program Files
PROMPT=$P$G
PSModulePath=C:\Program Files\WindowsPowerShell\Modules;C:\windows\system32\WindowsPowerShell\v1.0\Modules
PT7HOME=C:\Program Files\Cisco Packet Tracer 7.1
PUBLIC=C:\Users\Public

C:\nishant>ver

Microsoft Windows [Version 10.0.22621.1992]
```

Practical 3

3a pwd, cd, absolute and relative paths ls mkdir rmdir

3b file,touch,rm, cp, mv, rename,head,tail,cat,more,less, string,chmod
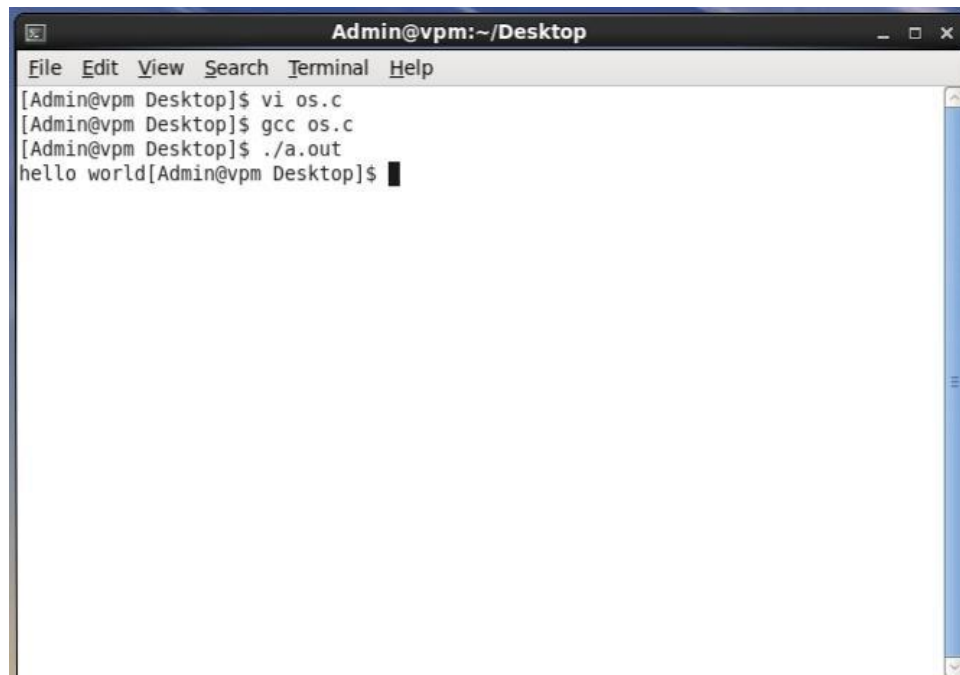
3c ps, top, grep, locate,find,cal

Practical 4

4a) The vi editor

Welcome to VI editor

1. **VI editor** is available in almost all linux distributions.
2. It works the same across different platforms and distributions.
3. It is user friendly.
4. Vi editor opens in command mode.
5. Commands are case sensitive.
6. Press '**i**' on the keyboard for insert mode.
7. In **insert mode**, any key would be taken as an input.
8. Press **ESC key** to save changes and return to command mode. Press **SHIFT + zz** to save the file.

Admin@vpm:~/Desktop

File   Edit   View   Search   Terminal   Help

```
#include<stdio.h>
main()
{
printf("hello world");
}
S
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                    6,2          All
```
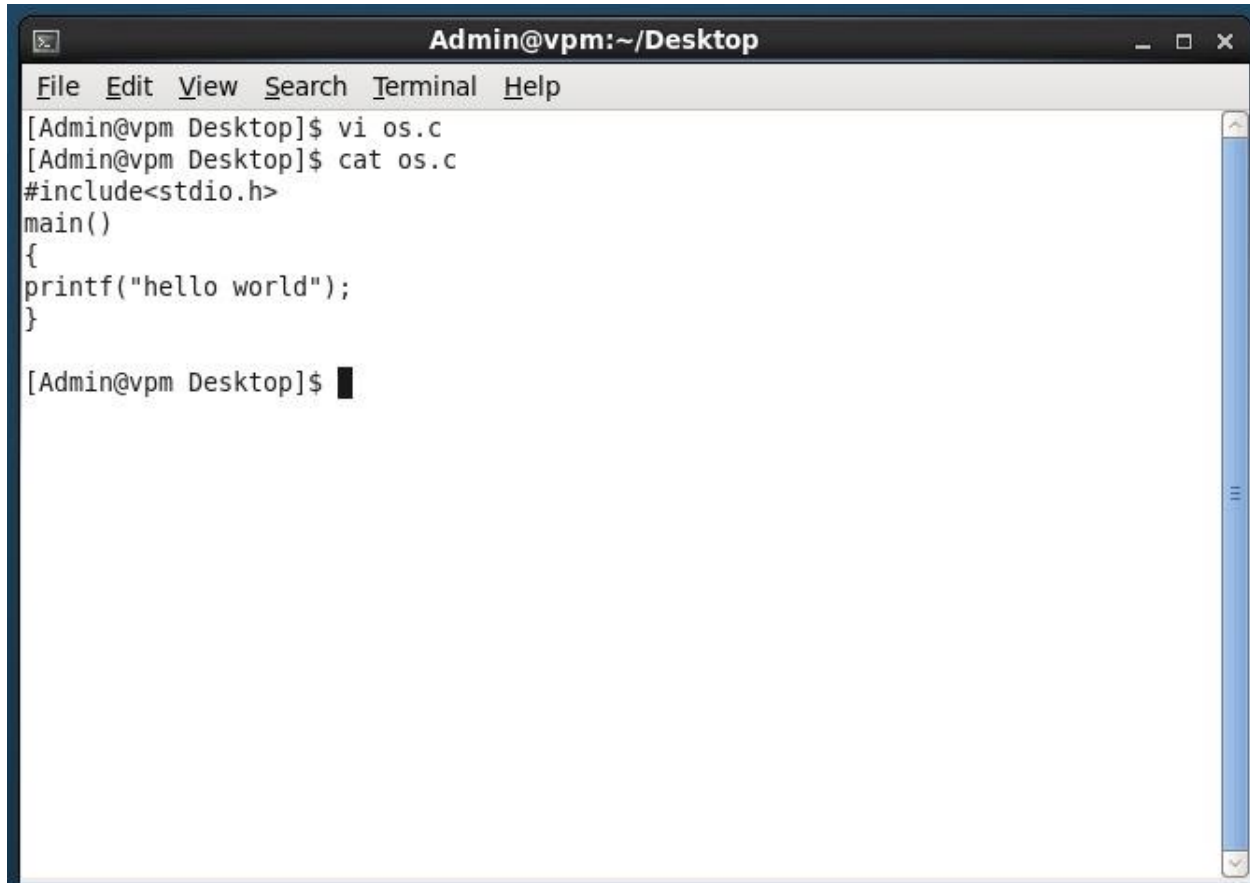
4b) Graphical user interface
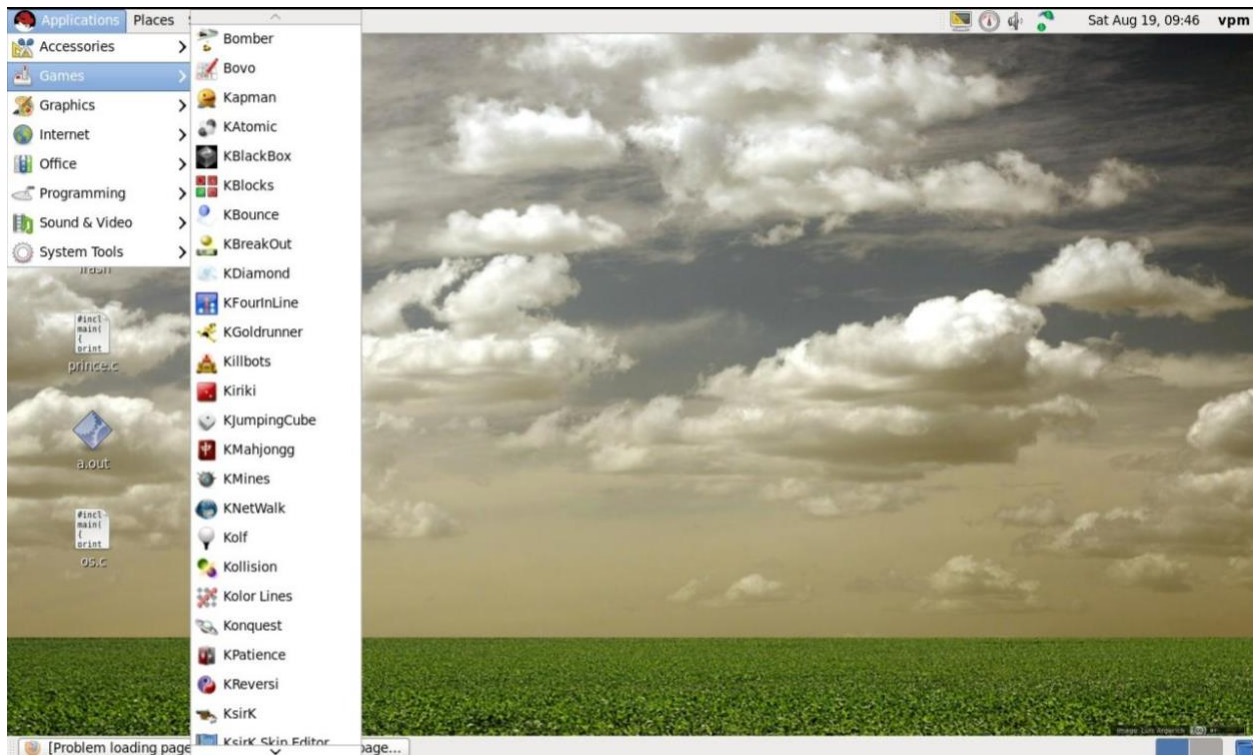
Graphics

4c) Working with terminal

```
Admin@vpm:~/Desktop

File  Edit  View  Search  Terminal  Help

[Admin@vpm Desktop]$ vi os.c
[Admin@vpm Desktop]$ cat os.c
#include<stdio.h>
main()
{
printf("hello world");
}

[Admin@vpm Desktop]$ ▮
```

4d) Adjusting display resolution
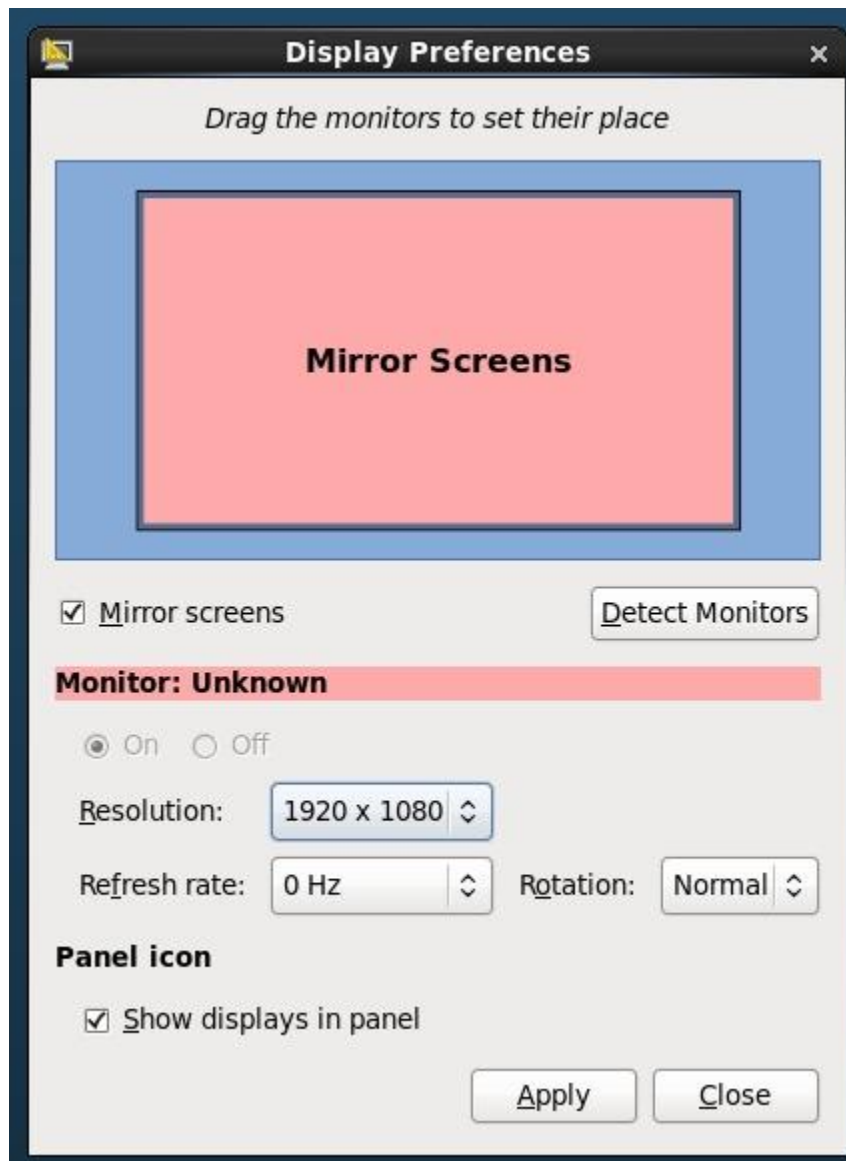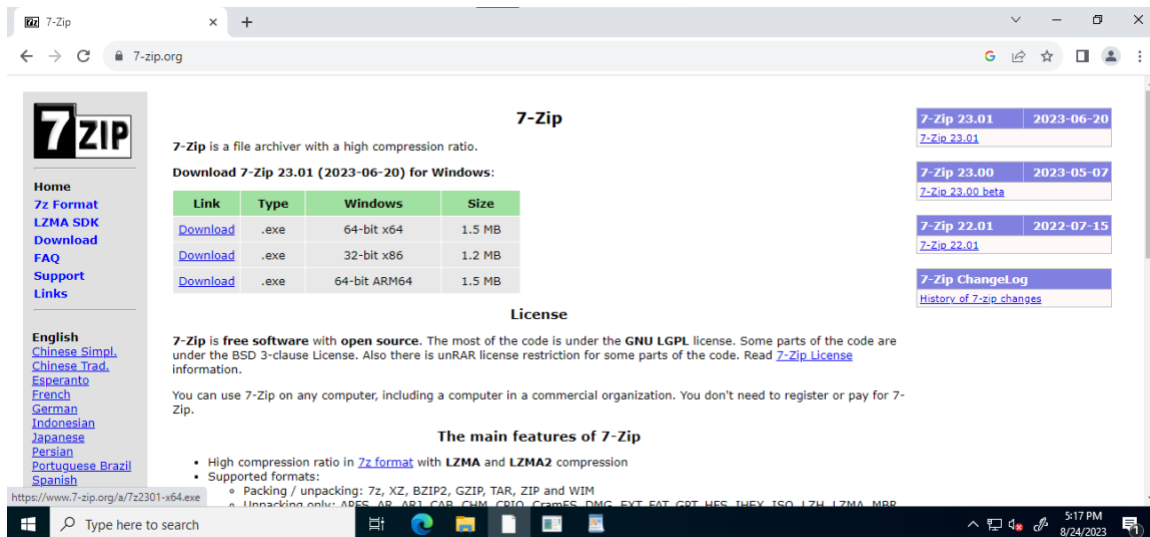
4e) Using the browsers
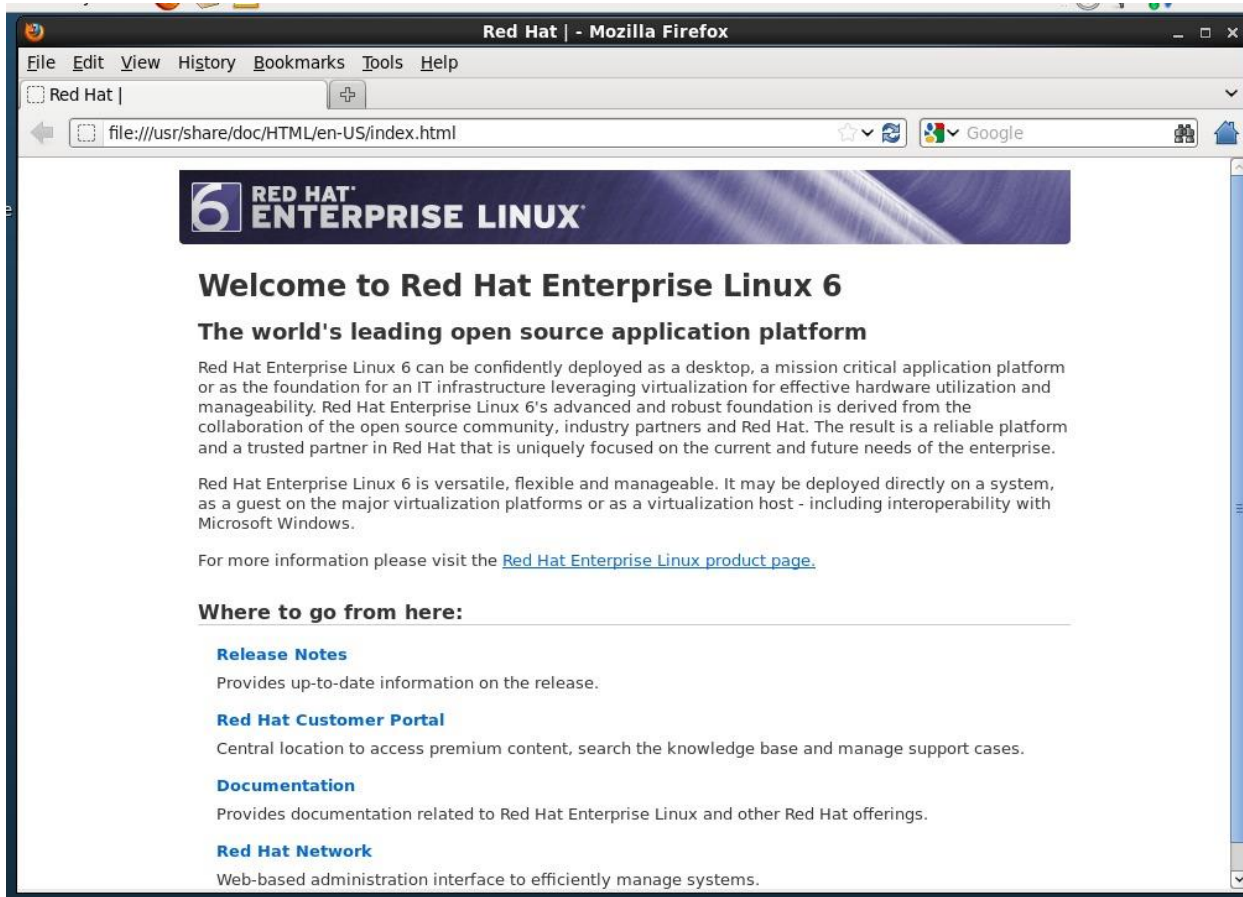
Practical 5

5a) Installing utility software 7zip on windows.
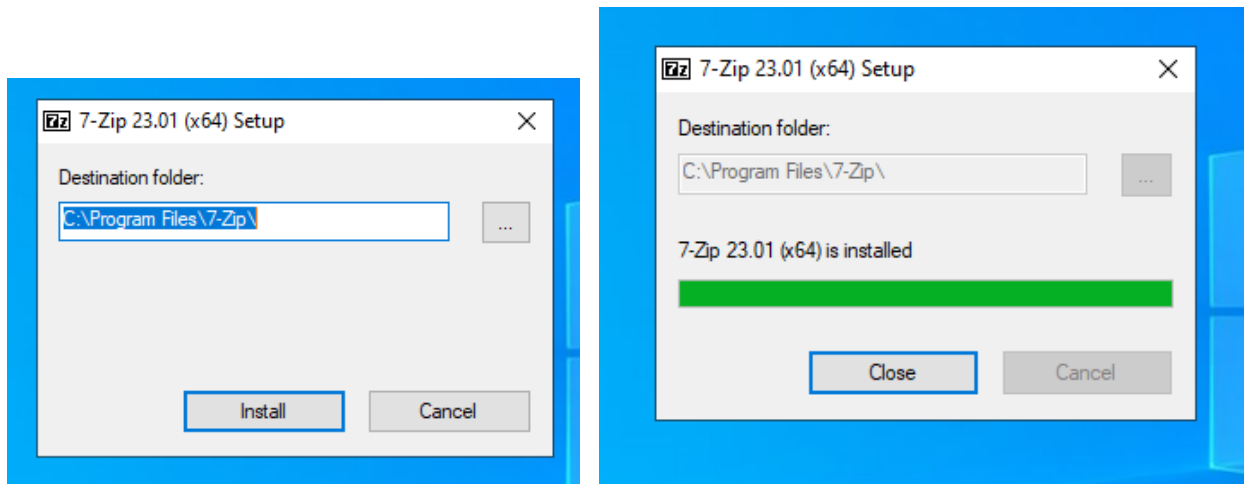
Step 1:- Search for 7zip software on the Google.
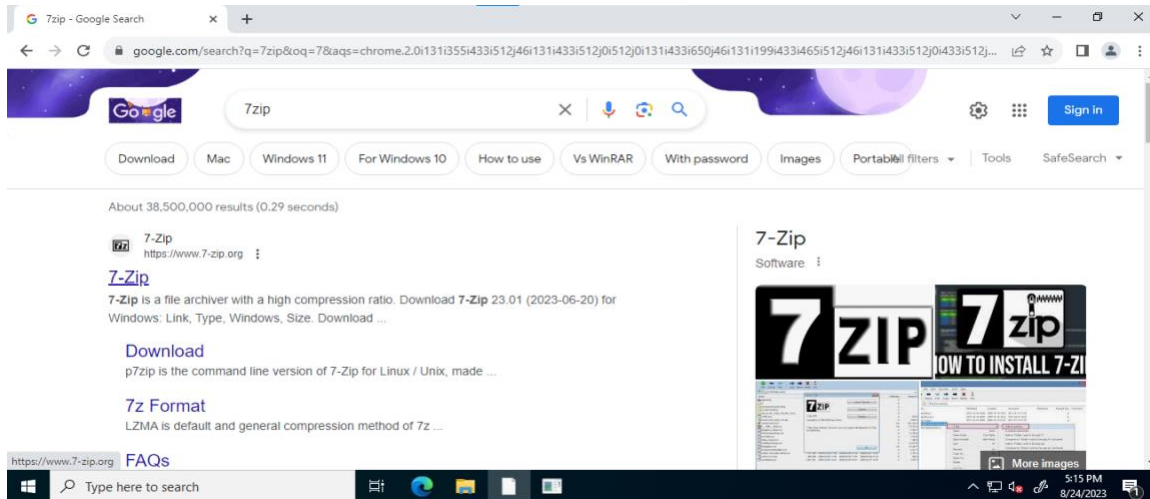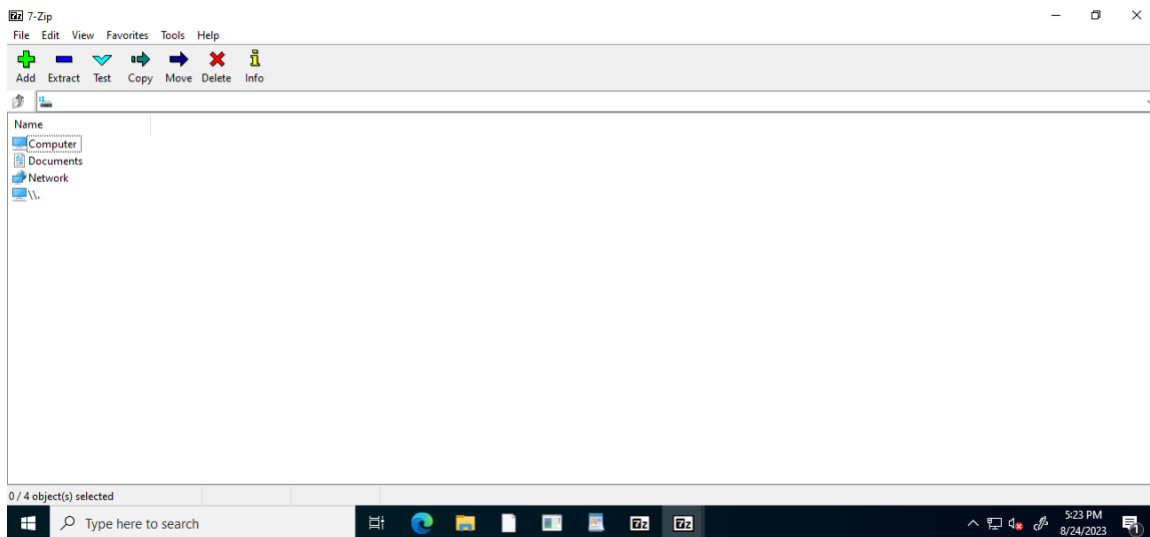

Step:- Select <u>Download</u> option on the website.

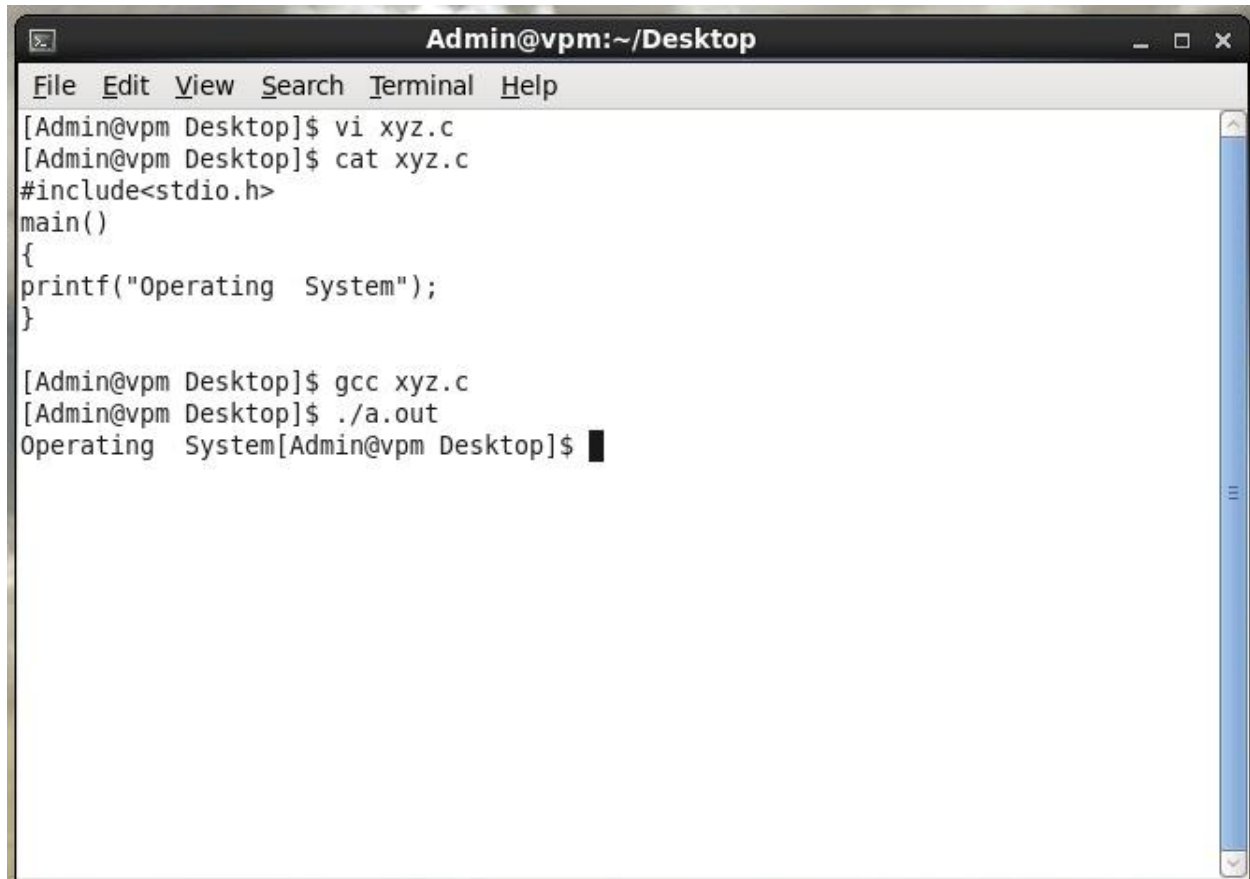**Step 3:-** Click Install button and installed it then close it.

Step 4:- Now our utility software 7zip is installed successfully!!

Practical 6

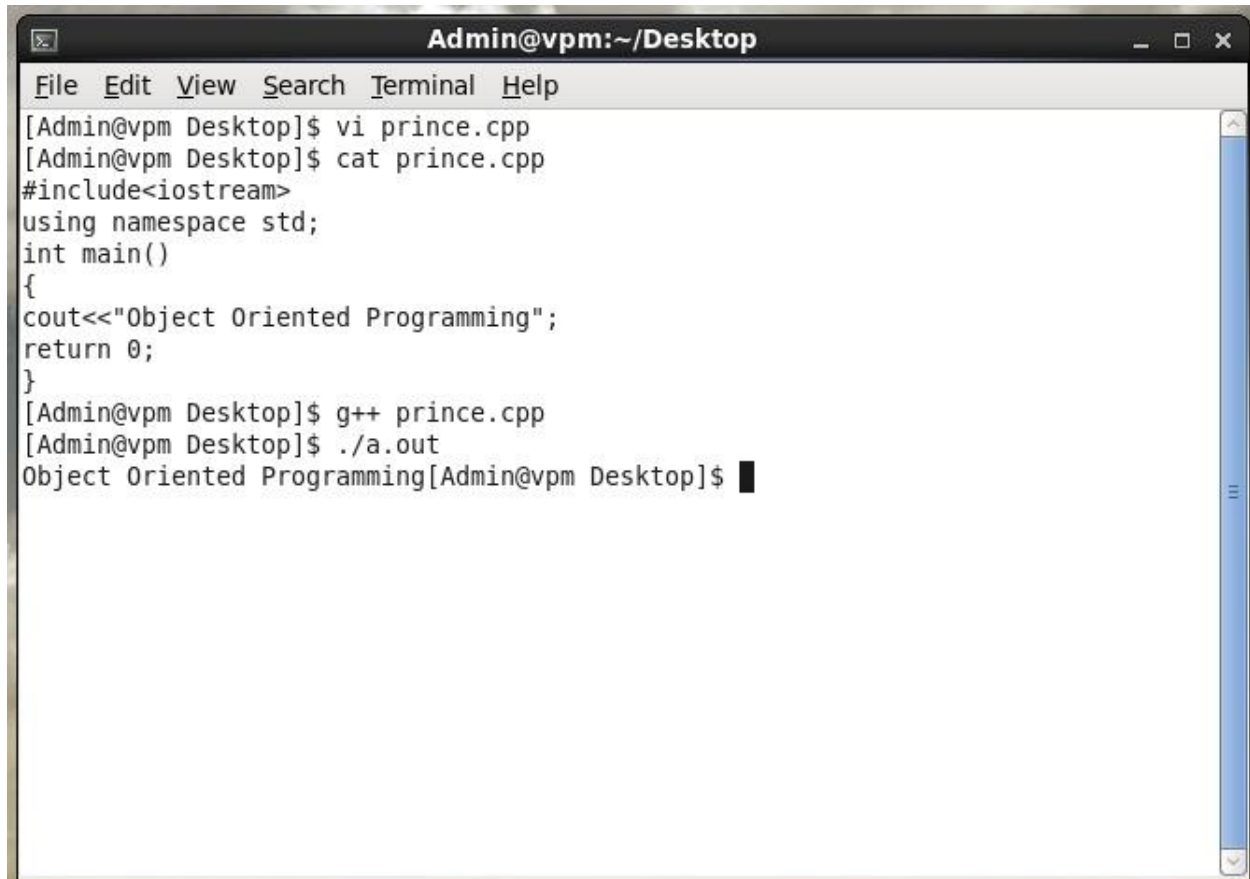**6a)**Running C/C++/Python programs in Linux

C Program in Linux :-


```
Admin@vpm:~/Desktop
File  Edit  View  Search  Terminal  Help
[Admin@vpm Desktop]$ vi xyz.c
[Admin@vpm Desktop]$ cat xyz.c
#include<stdio.h>
main()
{
printf("Operating  System");
}

[Admin@vpm Desktop]$ gcc xyz.c
[Admin@vpm Desktop]$ ./a.out
Operating  System[Admin@vpm Desktop]$
```

C++ Program in Linux :-


```
Admin@vpm:~/Desktop

File  Edit  View  Search  Terminal  Help

[Admin@vpm Desktop]$ vi prince.cpp
[Admin@vpm Desktop]$ cat prince.cpp
#include<iostream>
using namespace std;
int main()
{
cout<<"Object Oriented Programming";
return 0;
}
[Admin@vpm Desktop]$ g++ prince.cpp
[Admin@vpm Desktop]$ ./a.out
Object Oriented Programming[Admin@vpm Desktop]$
```

Python Program in Linux :-

Practical 7

7.Introduction to Linux Shell Scripting

7a) Basic operators

7b) Decision Making

7c) For loop