

## Practical : 1

### AIM:

Introduction to computer Hardware, type of memory , types of motherboard, types of processors.

### Objectives:

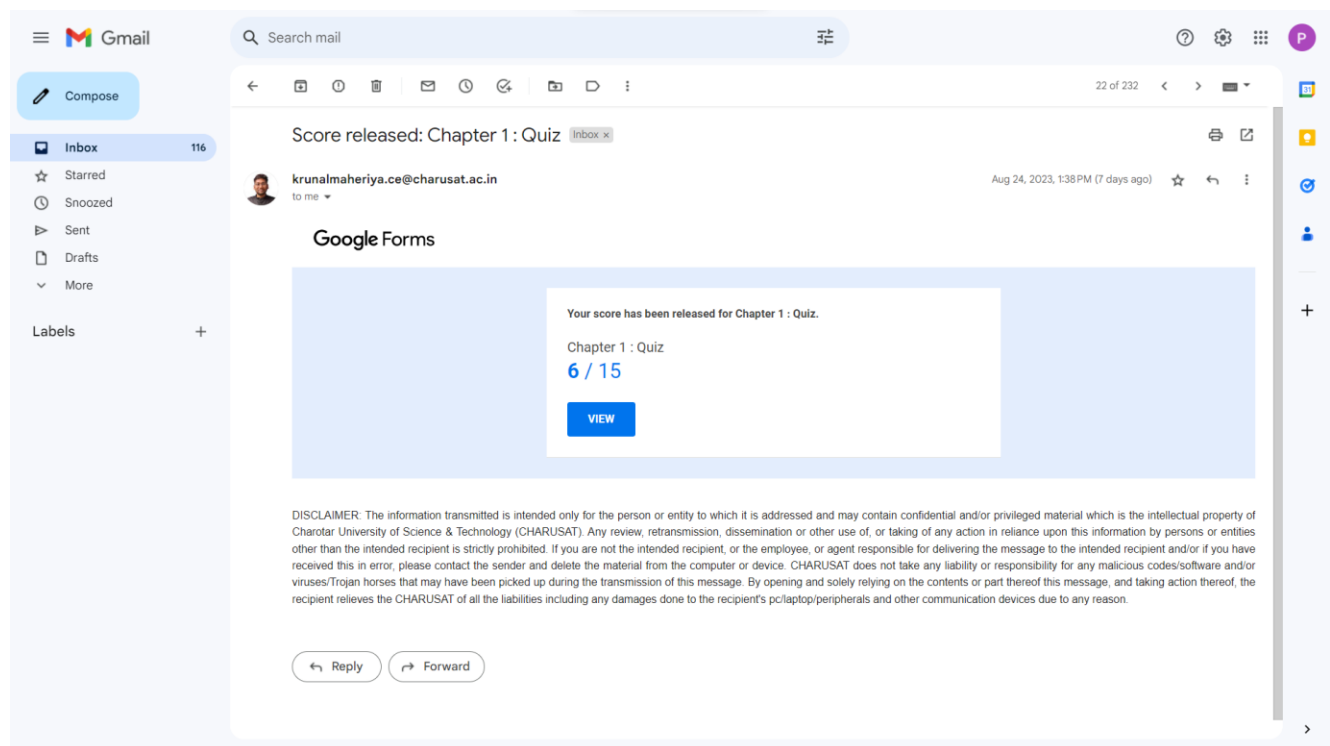
### Components:

### Observation:

From the experiment we observe the working of the computer and the parts and software involved in backprocesses in a computer components.

### Conclusion:

It can be concluded that computer operates through many logics involved in the system software and application software that work combinely with the hardware components giving us logical and accurate outputs at a fast speed and efficiency.



### Chapter 1 : Quiz

Total points **6/15** ?

Each Question is Mandatory  
Total Marks : 15  
Time : 00.30 Min.  
24 - 08 - 2023

Email \*

priyyapedhadiya1497@gmail.com

Name \*

Pedhadiya Priya B.

✓ What is the primary function of a CPU (Central Processing Unit)? \* 1/1

☒ Running applications ✓

☐ Generating graphics

☐ Managing storage

☐ Handling network connections

✓ Which component of a CPU is responsible for performing arithmetic operations involving decimal numbers? \*1/1

☒ ALU (Arithmetic Logic Unit) ✓

☐ Control Unit

☐ Floating Point Unit (FPU)

☐ Cache Memory

✗ Which unit of measurement is used to quantify the speed of a CPU's basic operations? \*0/1

☐ Watts

☒ Megabytes ✗

☐ Gigaflops

☐ Hertz

Correct answer

☒ Hertz

✓ A CPU with multiple processing units on a single chip is known as a: \* 1/1

☐ Single-Core CPU

☐ Quad-Core CPU

☐ Dual-Core CPU

☒ Multi-Core CPU ✓

✓ A GPU (Graphics Processing Unit) is primarily responsible for: \* 1/1

☐ Handling arithmetic operations

☐ Managing network connections

☒ Processing graphics and visual data ✓

☐ Running applications

✗ Which component of a computer manages data flow between the CPU, memory, and other devices? \*0/1

☐ GPU

☒ CPU Socket ✗

☐ Chipset

☐ BIOS

Correct answer

☒ Chipset

✗ The purpose of the CMOS battery on a motherboard is to: \* 0/1

☐ Manage storage interfaces

☐ Process graphics data

☐ Maintain the system clock and BIOS settings

☒ Power the CPU ✗

Correct answer

☒ Maintain the system clock and BIOS settings

✓ Which type of memory is used to store the BIOS/UEFI firmware of a computer? \*1/1

☐ Cache Memory

☐ RAM

☒ ROM ✓

☐ Virtual Memory

✗ What is the primary role of an operating system in a computer? \* 0/1

☒ Running applications ✗

☐ Managing hardware components

☐ Displaying graphics

☐ Creating software applications

Correct answer

☒ Managing hardware components

✓ What is the primary difference between HDD and SSD storage technologies? \*1/1

☐ SSDs are faster but have less capacity

☒ SSDs have no moving parts, while HDDs do ✓

☐ HDDs are more reliable than SSDs

☐ HDDs use less power than SSDs

✗ Which type of memory is used as a temporary storage buffer to bridge the speed gap between the CPU and main memory? \*0/1

☒ Secondary Memory ✗

☐ RAM

☐ Cache Memory

☐ ROM

Correct answer

☒ Cache Memory

✗ What is the function of Virtual Memory in a computer system? \* 0/1

- ☐ To store data that exceeds the capacity of the storage drive
- ☒ To create a virtualized network environment ✗
- ☐ To manage CPU operations
- ☐ To provide additional RAM

Correct answer

☒ To provide additional RAM

✗ Which type of RAM is known for its fast speed and is often used in CPU cache memory? \* 0/1

- ☒ SDRAM ✗
- ☐ DRAM
- ☐ SRAM
- ☐ DDR SDRAM

Correct answer

☒ SRAM

✗ GDDR SDRAM is primarily used in which component of a computer? \* 0/1

- ☒ CPU ✗
- ☐ Motherboard
- ☐ GPU
- ☐ Storage Drive

Correct answer

☒ GPU

✗ What is the purpose of an expansion slot on a motherboard? \* 0/1

- ☒ To provide cooling for the motherboard ✗
- ☐ To provide power to the motherboard
- ☐ To connect the CPU to the motherboard
- ☐ To connect external devices to the motherboard

Correct answer

☒ To connect external devices to the motherboard

This form was created inside of Charotar University of Science & Technology.

Google Forms

Image Description:

## Practical : 2

**AIM:**

Assembly of computer.

**Objectives:**

**Components:**

motherboard,ram,cooling fan,cards etc.

**Observation:**

In this experiment we have observe that the how can we assamble different type of computer parts and also the roll of component in the motherboard.

**Conclusion:**

After performing this computer assembly experiment we are not able to assemble all the parts of a computer i.e motherboard, smps, harddisk, heat sync etc at their correct position.

**Drive link of video:**

<https://photos.app.goo.gl/Xz57CSRzeFQSVJ5d6>

**Image Description:**

## Practical : 3

**AIM:**

Installation of linux and windows using VMware.

**Objectives:****Components:**

Computer, VMware etc.

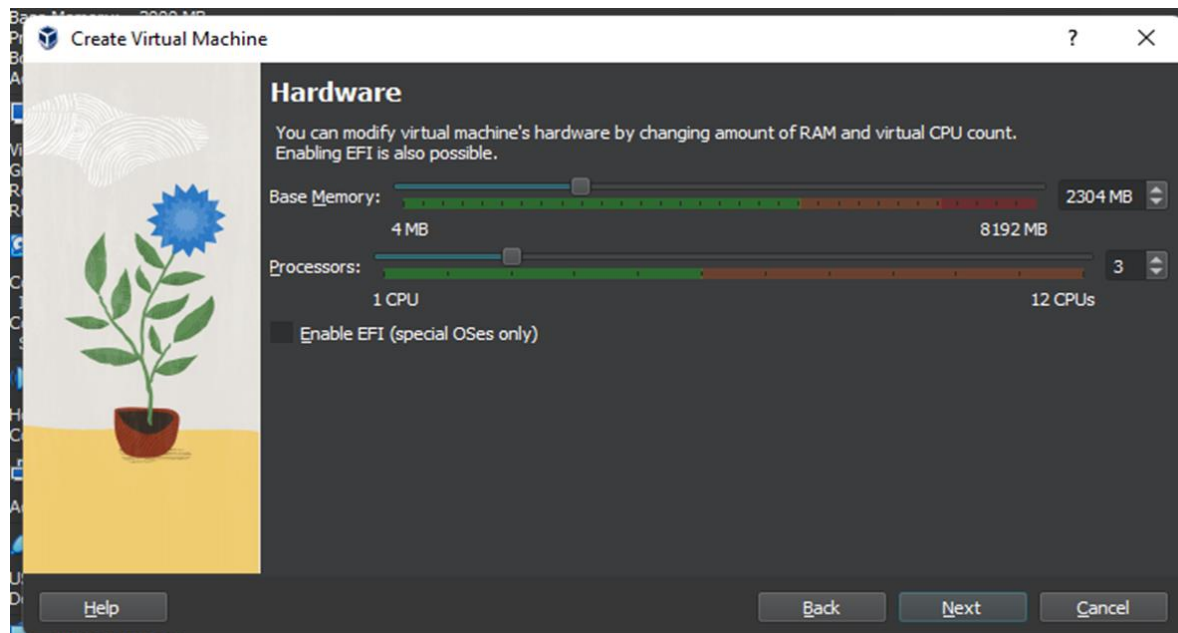
**Observation:**

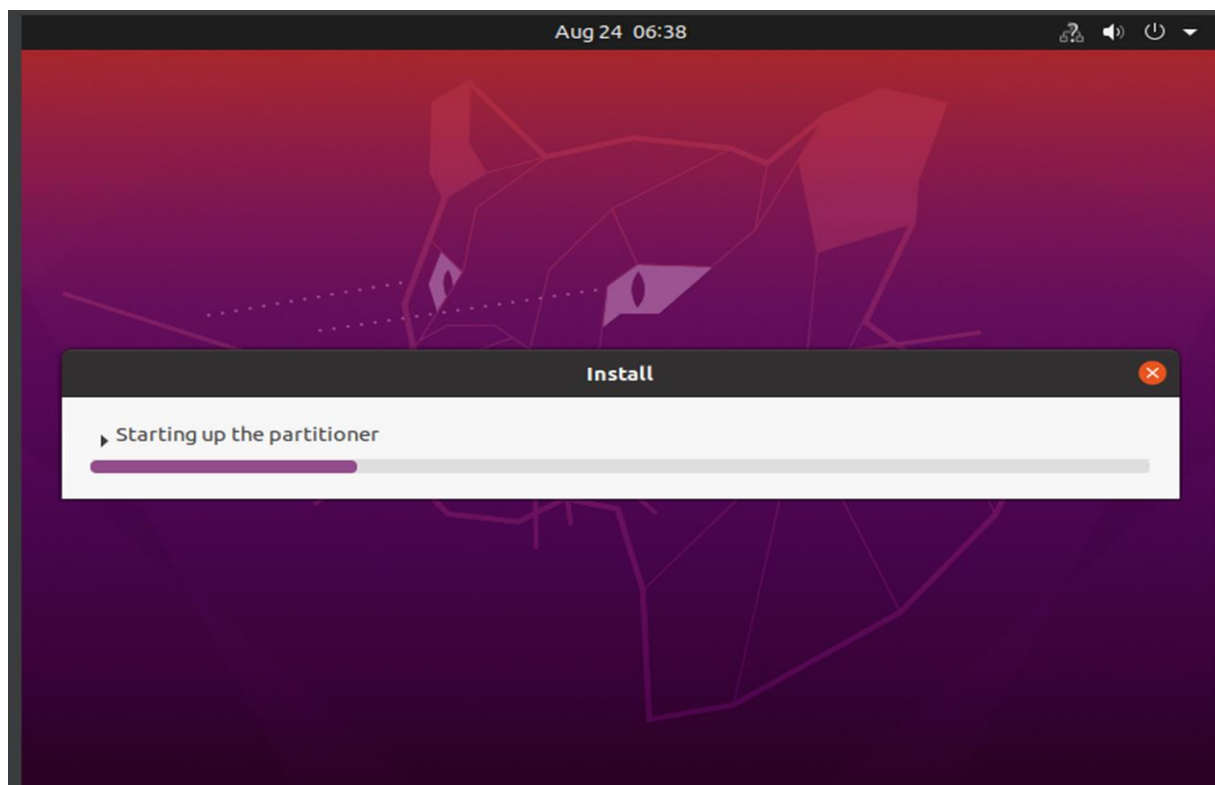
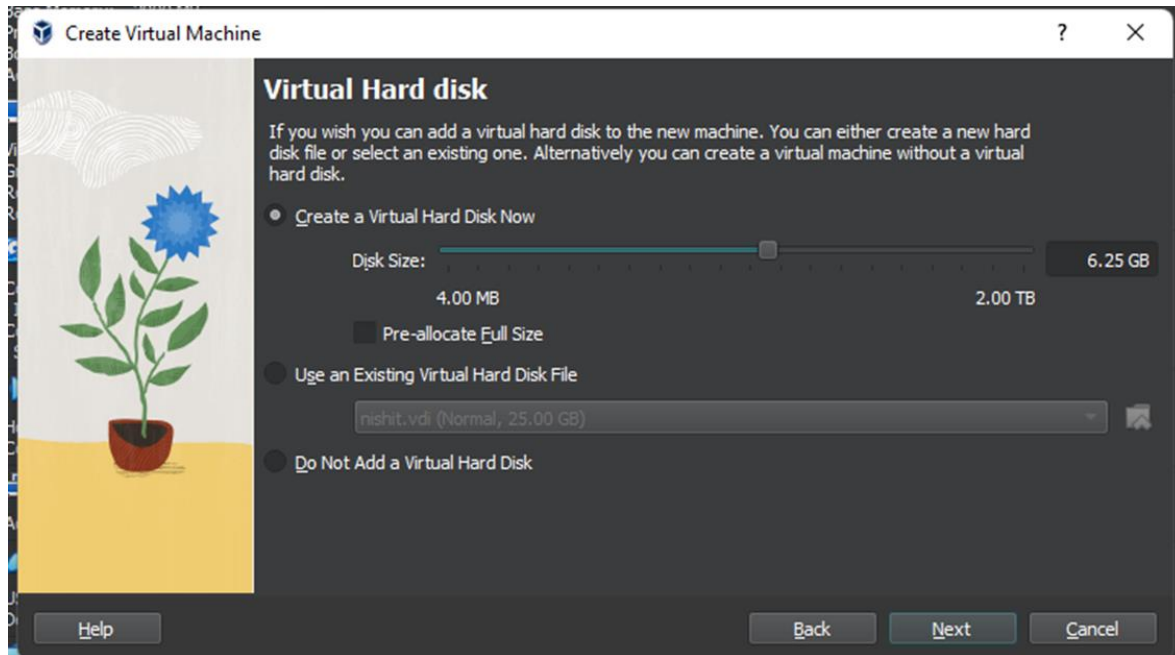
In this experiment we observe the working of linux based operating system and how to install it in a computer.

**Conclusion:**

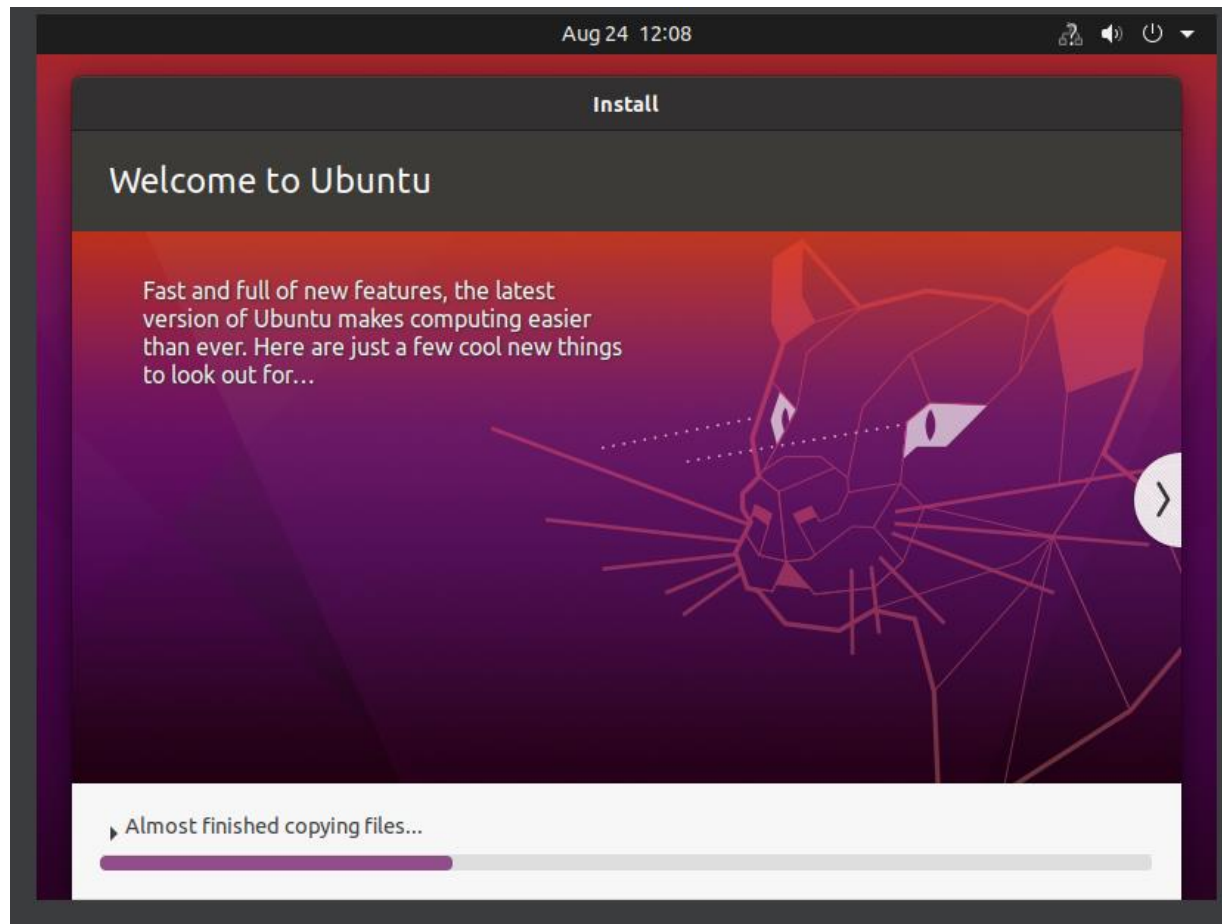
An operating system is an interface that helps a user connect and communicate with computer hardware.

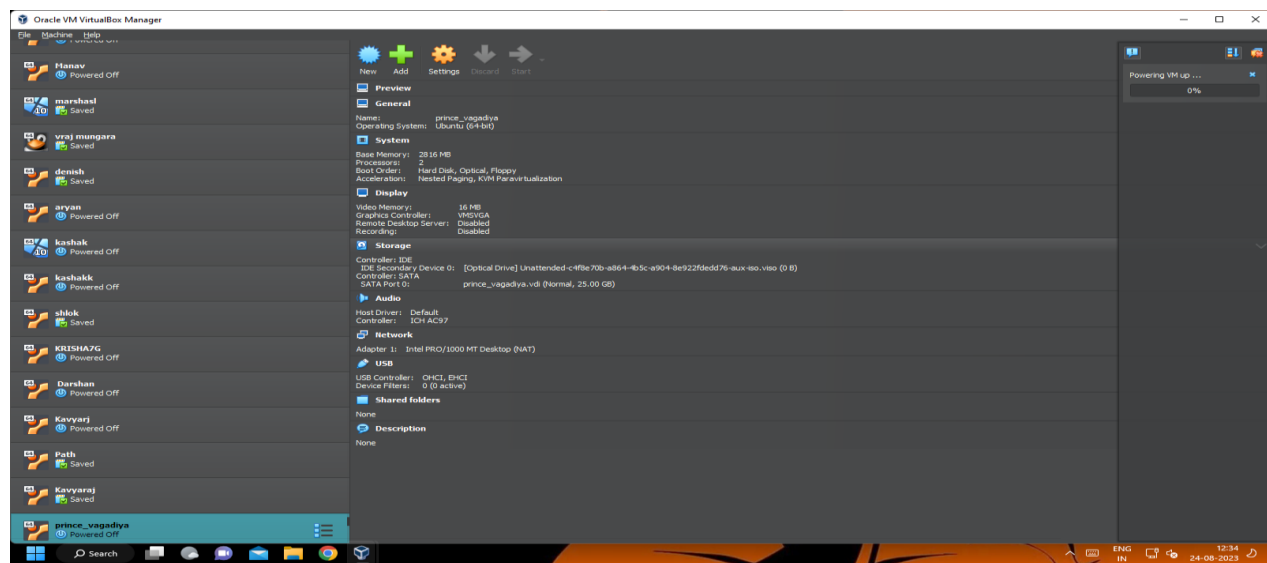
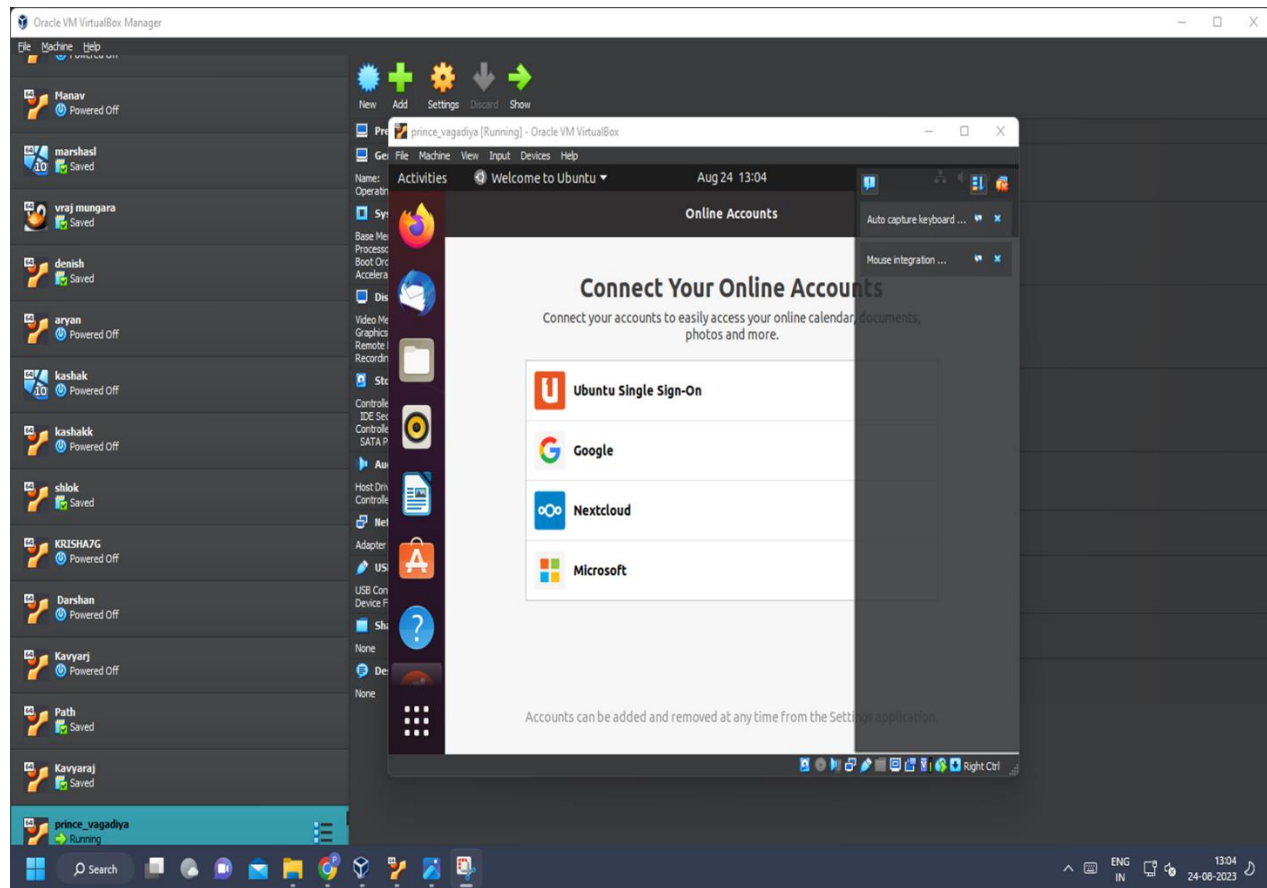
Linux os is open source and free to use and edit. Installation of linux is very easy. While windows is a paid Source. We have to pay to use windows. At the end of this experiment we can install any os into pc or Vbox.

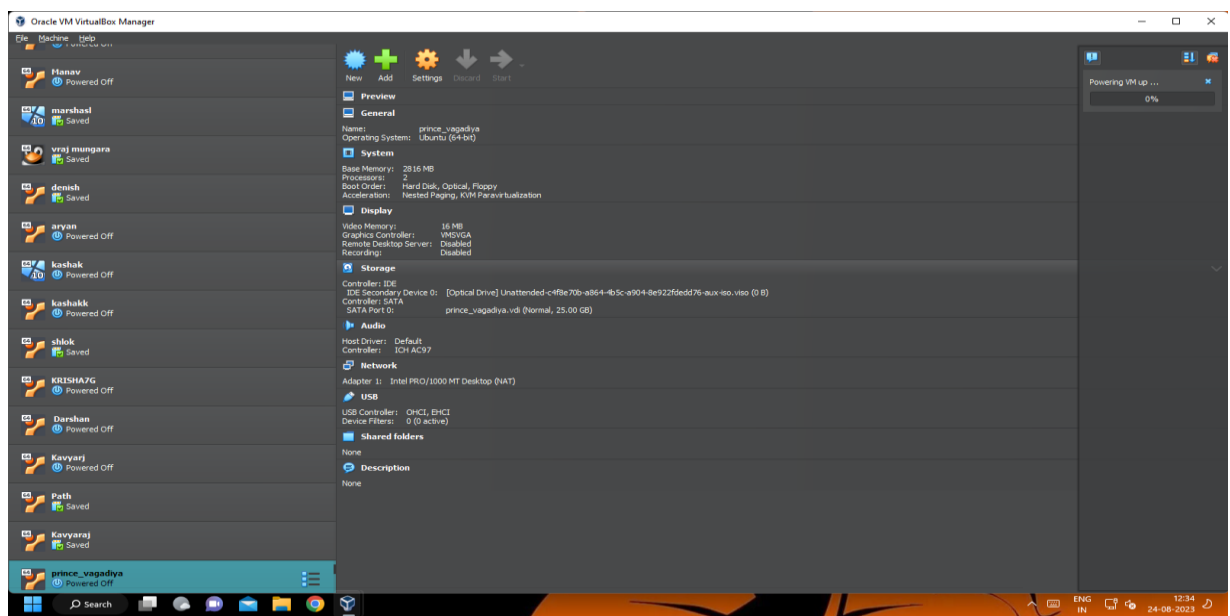
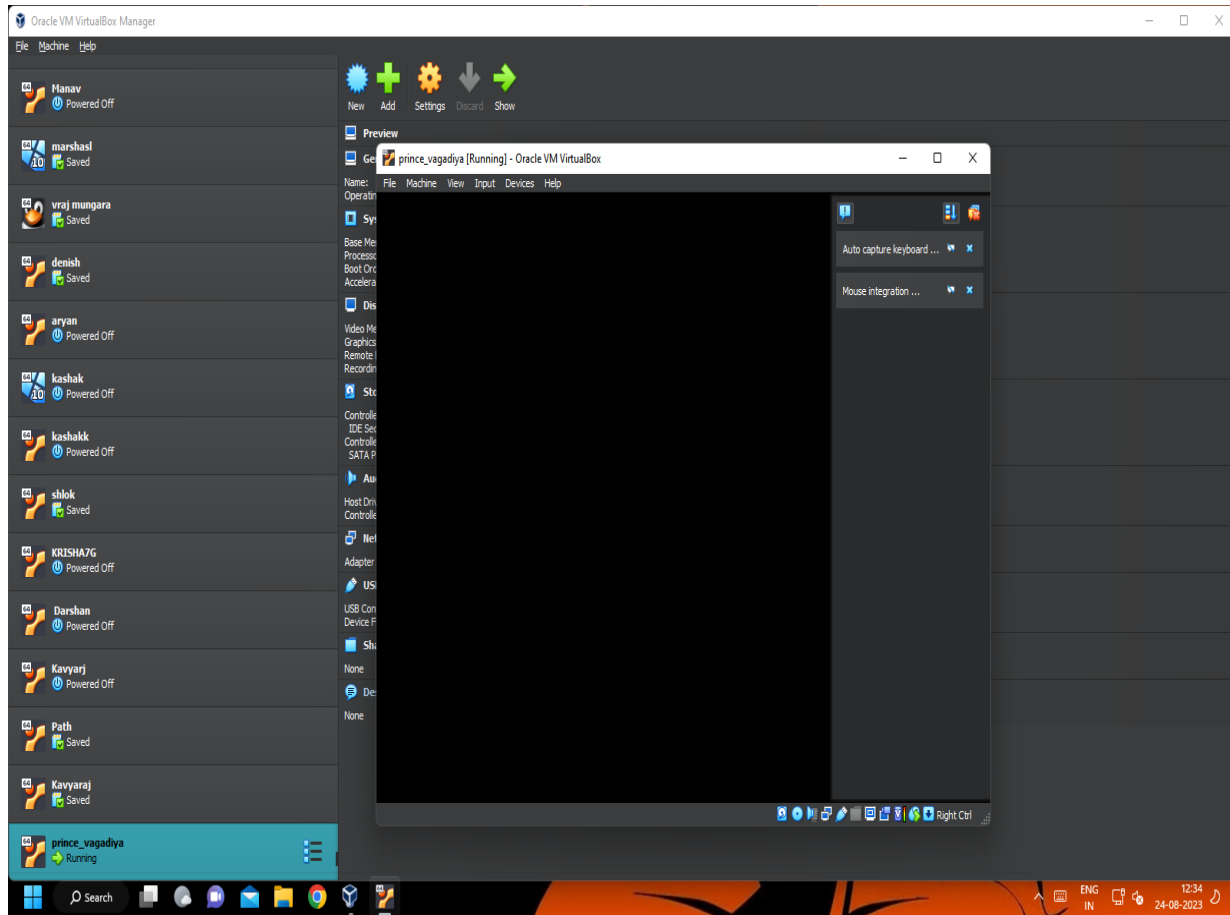
**Images:**

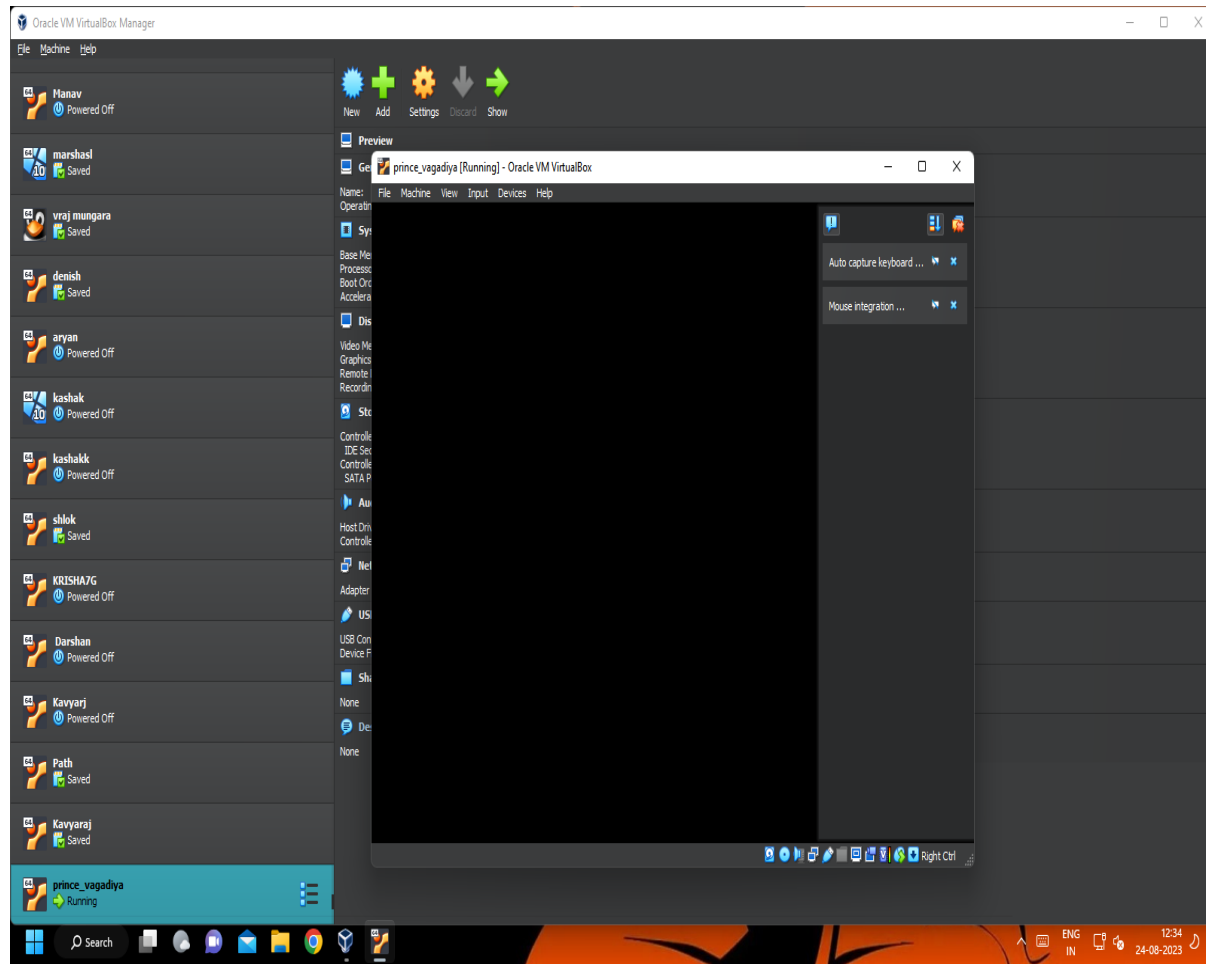


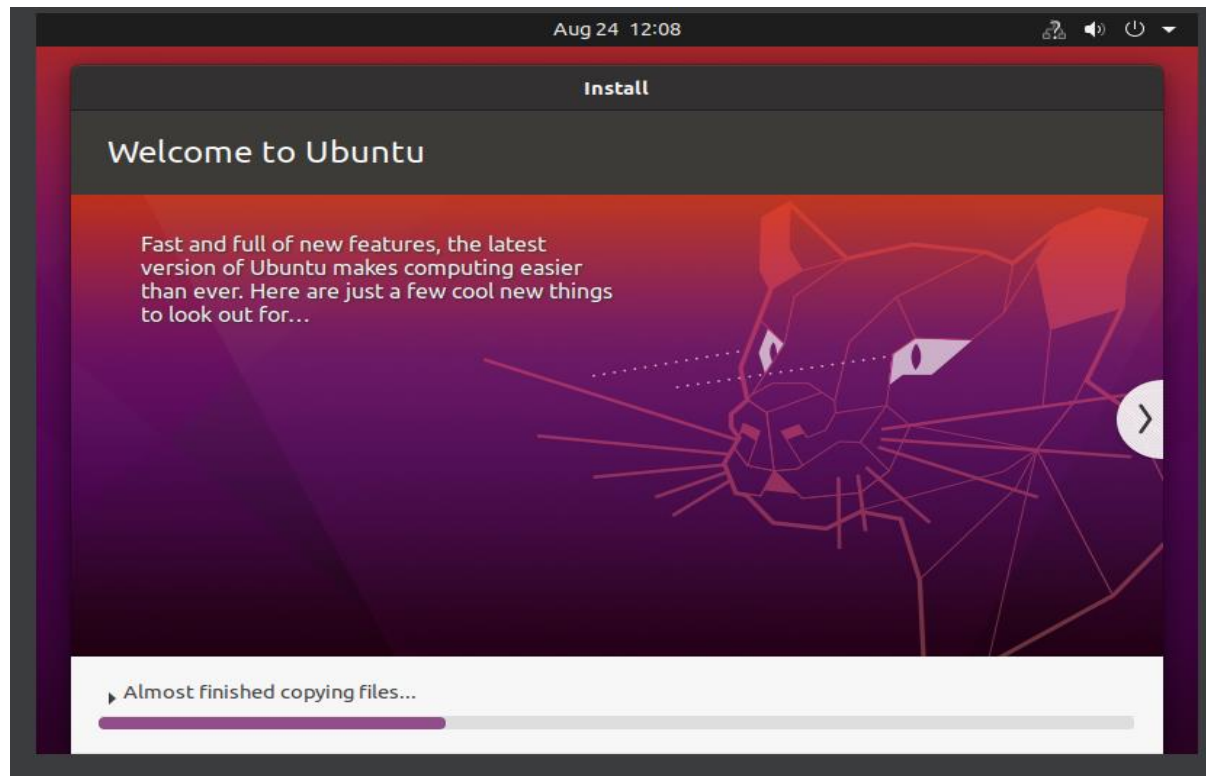










**Image Description:**

1. First of all open VMware.
2. Now second step is click on create a new virtual machine
3. Select installer disc image file (iso) and browse to the location where you downloaded the Ubuntu iso file
4. Assign a name and location for your virtual machine files
5. Customize the RAM and ROM for your virtual machine
6. Review your parameter and click on finish
7. Create your user name and password
8. Now installation process complete. Once done ,click restart now
9. Let's login with user name
10. Now in this step click install Ubuntu and installation process will be start
11. Installation process take few minutes
12. After complete process your Ubuntu is install in your system.

## Practical : 4

**AIM:**

Learning linux and windows commands.

**Objectives:****Components:**

Command prompt/ powershell

**Observation:**

After learning various commands in windows, it's evident that the command-line interface (CLI) offers a powerful and efficient way to interact with the operating system. Through the command prompt or powershell, users can perform. A wide range of tasks, from simple file manipulations to more complex system management tasks. The commands allow for precise control over the system and offer a level of automation that can significantly enhance productivity.

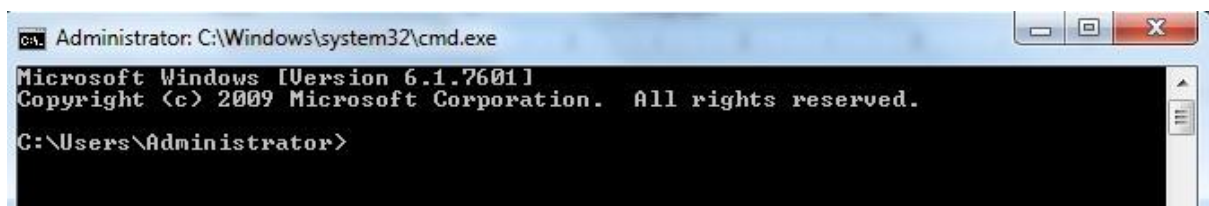
**Conclusion:**

Learning command line operation in windows is an essential skill for users who seek greater control, efficiency, and automation in their interactions with the operating system. While the graphical user interface provides a user friendly way to interface offers a deeper level of access and control.

**Image Description:**

1. Click start

Type command & press enter.

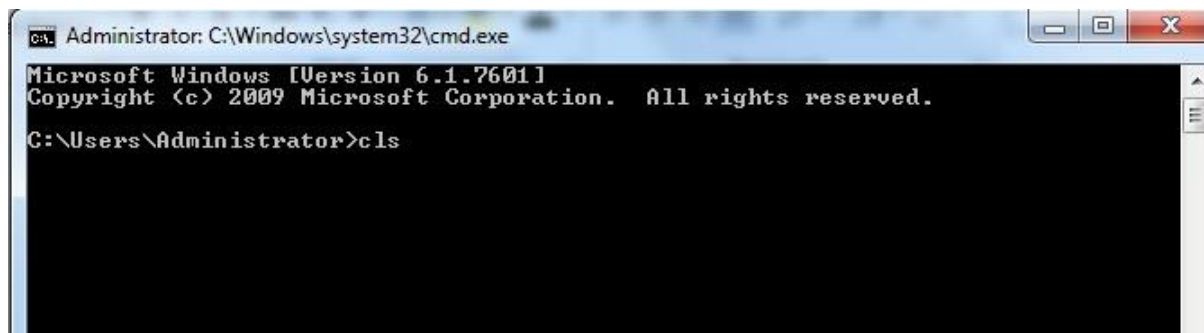


## Internal Commands:

### 1) CLS (Clear Screen)

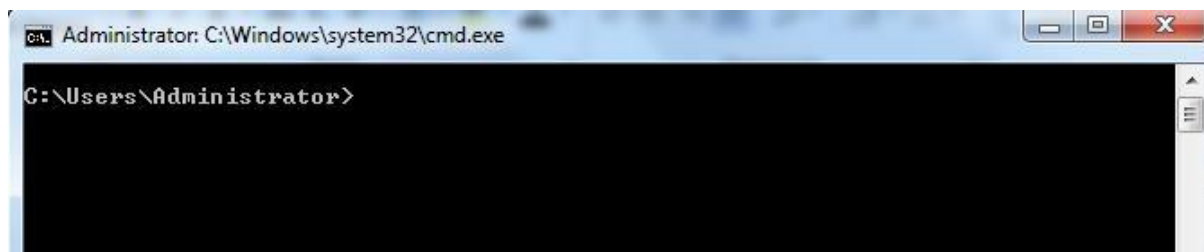
Running the cls command at the command prompt would clear your screen of all previous text and only return the prompt . It does not clear the user's history of commands .

#### CLS



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cls
```



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>
```

### 2) DATE

The date command can be used to look at the current date of the computer as well as change the date to an alternate date.

#### DATE



```
Administrator: C:\Windows\system32\cmd.exe

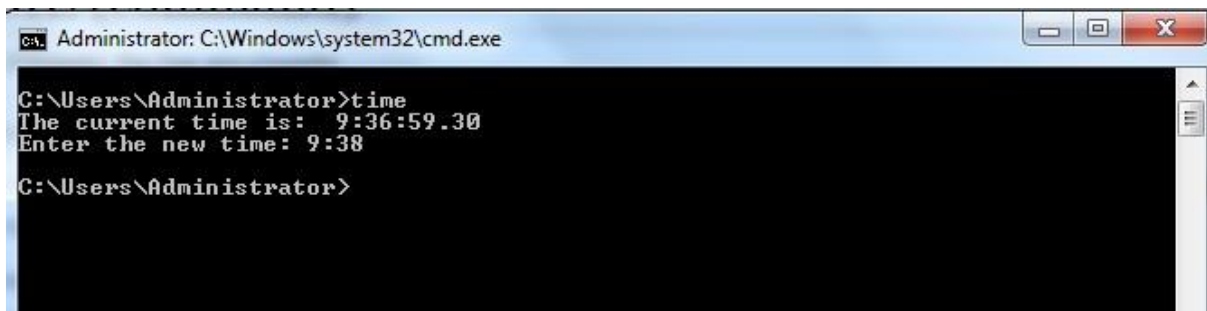
C:\Users\Administrator>date
The current date is: Wed 10/14/2015
Enter the new date: <mm-dd-yy> 10/23/2015

C:\Users\Administrator>
```

### 3) TIME

Time command is used to display and set the current system time of the operating system.

#### TIME



```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>time
The current time is:  9:36:59.30
Enter the new time: 9:38
C:\Users\Administrator>
```

### 4) VER (Version)

VER will tell you what version of DOS you are using.

#### VER



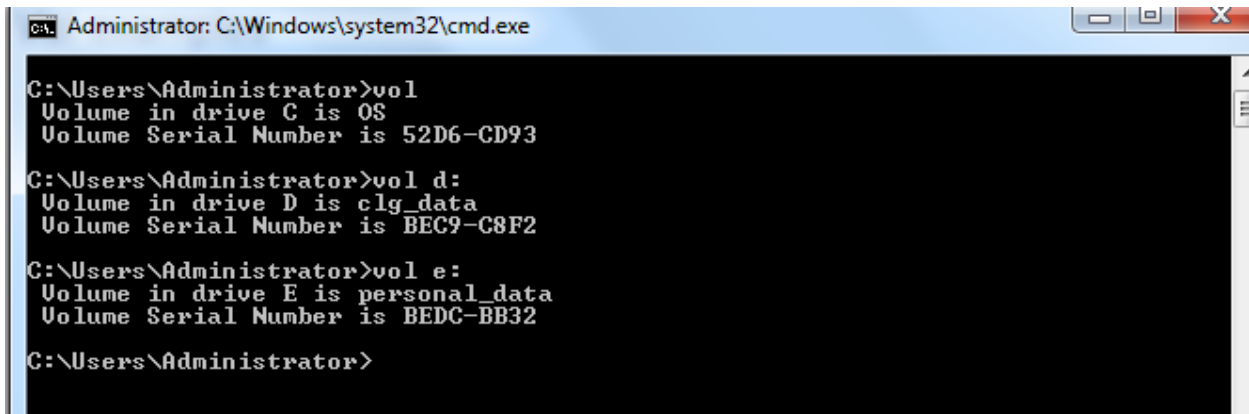
```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>ver
Microsoft Windows [Version 6.1.7601]
C:\Users\Administrator>
```

### 5) VOL (Volume)

Displays the volume information about the designated drive.

#### VOL





```

Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>vol
Volume in drive C is OS
Volume Serial Number is 52D6-CD93

C:\Users\Administrator>vol d:
Volume in drive D is clg_data
Volume Serial Number is BEC9-C8F2

C:\Users\Administrator>vol e:
Volume in drive E is personal_data
Volume Serial Number is BEDC-BB32

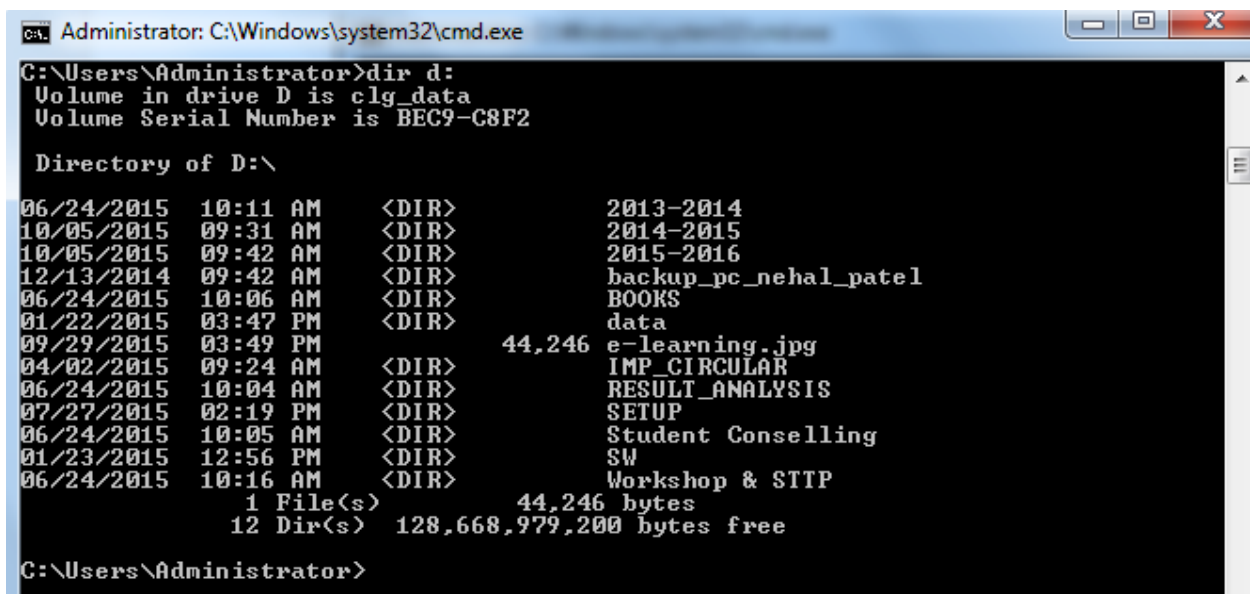
C:\Users\Administrator>

```

## 6) DIR (Directory)

The dir command allows you to see the available [files](#) and [directories](#) in the current directory. The dir command also shows the last modification date and time, as well as the file size.

### DIR drivename:



```

Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>dir d:
Volume in drive D is clg_data
Volume Serial Number is BEC9-C8F2

Directory of D:\

06/24/2015  10:11 AM    <DIR>          2013-2014
10/05/2015  09:31 AM    <DIR>          2014-2015
10/05/2015  09:42 AM    <DIR>          2015-2016
12/13/2014  09:42 AM    <DIR>          backup_pc_nehal_patel
06/24/2015  10:06 AM    <DIR>          BOOKS
01/22/2015  03:47 PM    <DIR>          data
09/29/2015  03:49 PM    <DIR>          44,246 e-learning.jpg
04/02/2015  09:24 AM    <DIR>          IMP_CIRCULAR
06/24/2015  10:04 AM    <DIR>          RESULT_ANALYSIS
07/27/2015  02:19 PM    <DIR>          SETUP
06/24/2015  10:05 AM    <DIR>          Student Conselling
01/23/2015  12:56 PM    <DIR>          SW
06/24/2015  10:16 AM    <DIR>          Workshop & STTP
               1 File(s)              44,246 bytes
               12 Dir(s)  128,668,979,200 bytes free

C:\Users\Administrator>

```

If you want to create new .txt file in C:\ using CMD then type

### dir> filename.txt

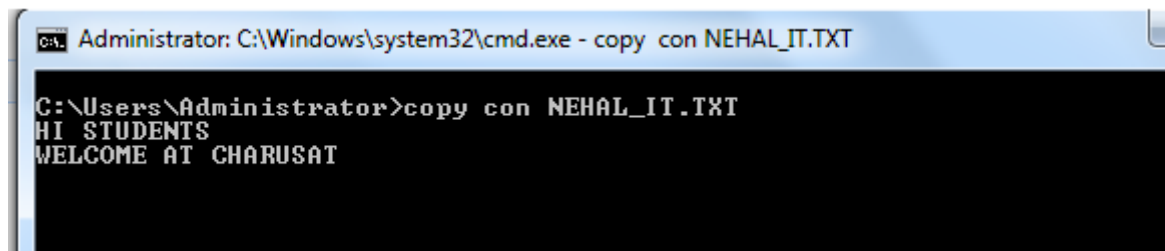


```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>DIR> XYZ.TXT
C:\Users\Administrator>
```

### 7) Copy con

Copy con is an MS-DOS and Windows command line command that allows the creation of a file through the command prompt.

### copy con filename.txt



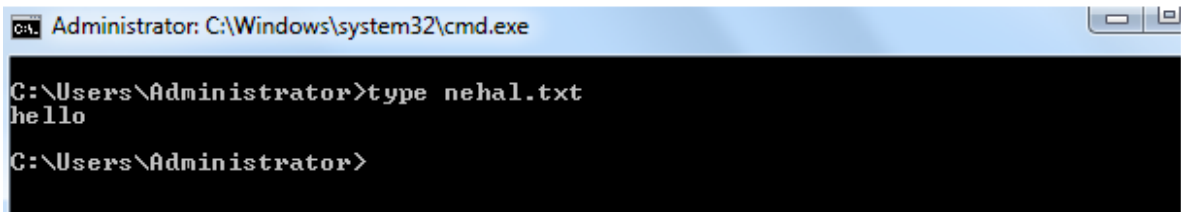
```
Administrator: C:\Windows\system32\cmd.exe - copy con NEHAL_IT.TXT
C:\Users\Administrator>copy con NEHAL_IT.TXT
HI STUDENTS
WELCOME AT CHARUSAT
```

After this command is typed, you'll be returned to a blank line, which is the start of your file. Enter the lines you want to insert into the file and, when done, press **Ctrl + Z** to create the file. If you want to cancel the creation of the file, press **Ctrl + C**.

### 8) TYPE

Allows the user to see the contents of a file. To edit the files, the user would need to use either edit or copy con.

### Type [drive:][path]filename



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>type nehal.txt
hello

C:\Users\Administrator>
```

## 9) MKDIR

Allows you to create your own [directories](#) in MS-DOS.

**MKDIR [drive:]path**

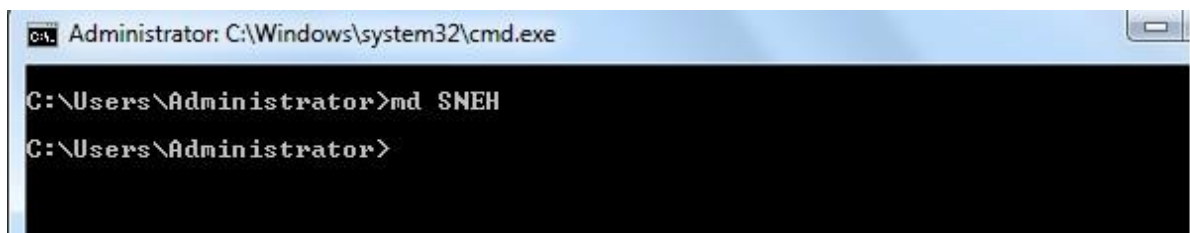
**MD [drive:]path**



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>MKDIR PATEL_Rocks

C:\Users\Administrator>
```



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>md SNEH

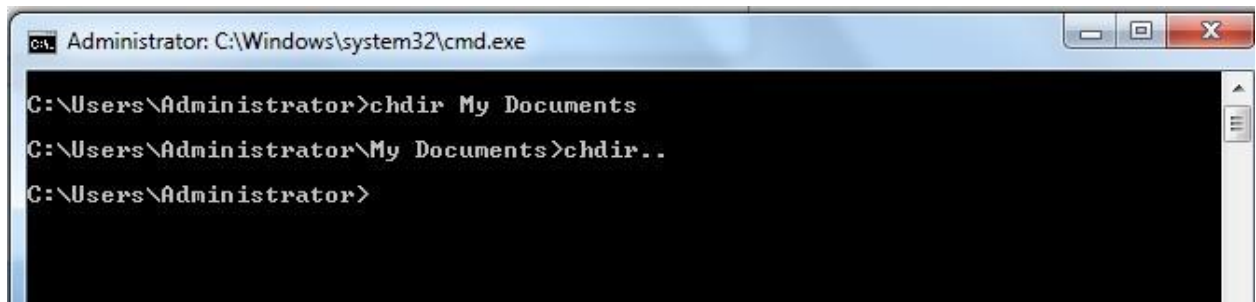
C:\Users\Administrator>
```

## 10) CHDIR (CD)

Chdir (Change Directory) is a command used to switch directories in MS DOS.

**chdir\**

**chdir..**



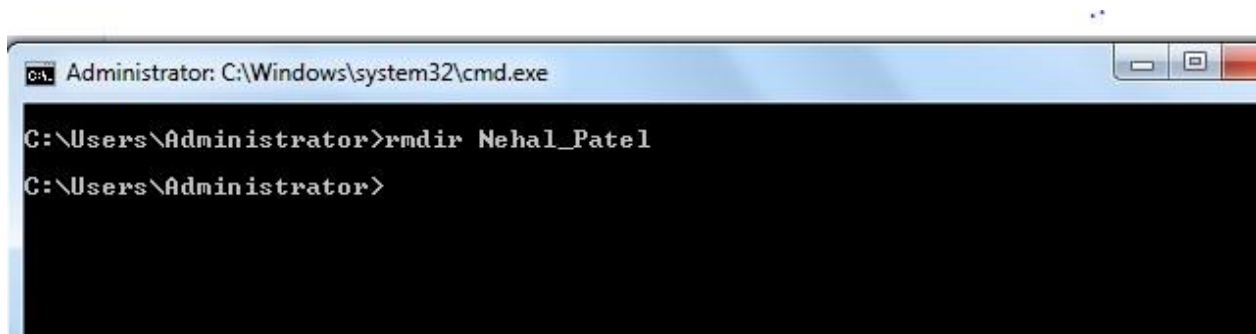
```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>chdir My Documents
C:\Users\Administrator\My Documents>chdir..
C:\Users\Administrator>
```

### 11) RMDIR

Removes an empty directory in MS-DOS.

**rmdir dirname**



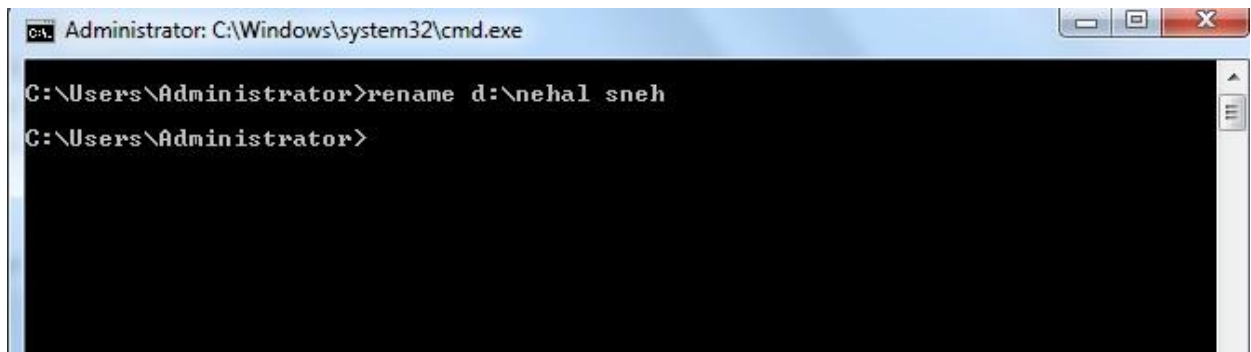
```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>rmdir Nehal_Patel
C:\Users\Administrator>
```

### 12) RENAME

Used to rename files and directories from the original name to a new name.

**rename c:\computer hope**

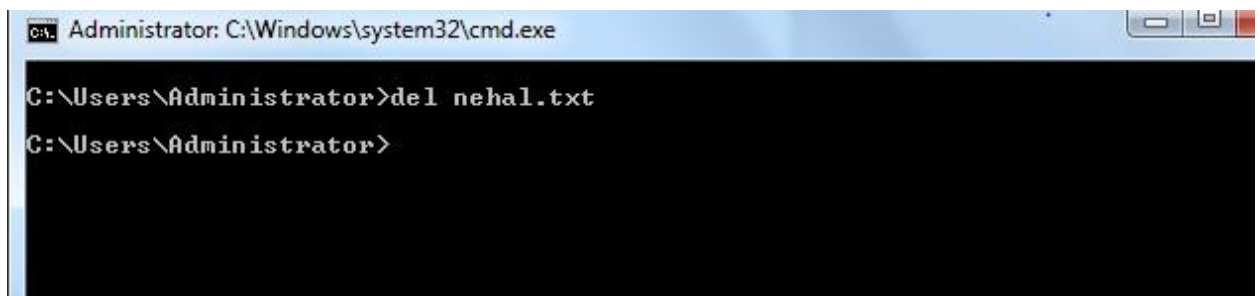


```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>rename d:\nehal sneh
C:\Users\Administrator>
```

### 13) DEL

Del is a command used to [delete](#) files from the computer.

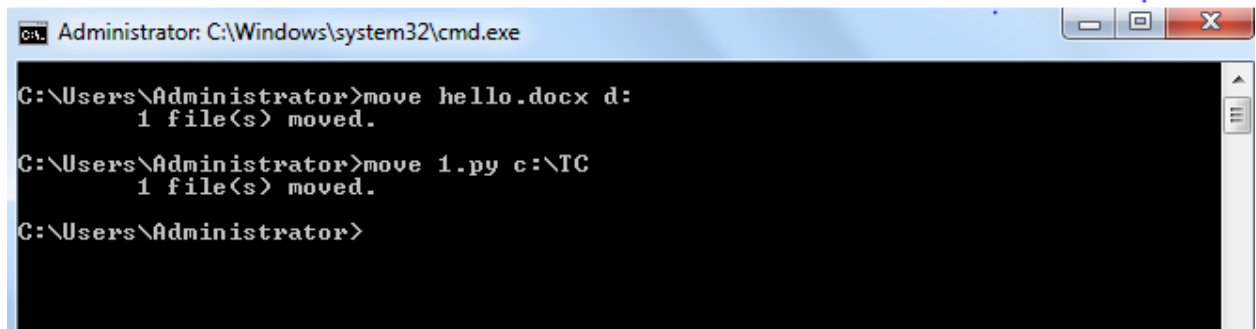


```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>del nehal.txt
C:\Users\Administrator>
```

**14) MOVE**

Allows you to move files or directories from one folder to another, or from one drive to another.



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>move hello.docx d:
1 file(s) moved.

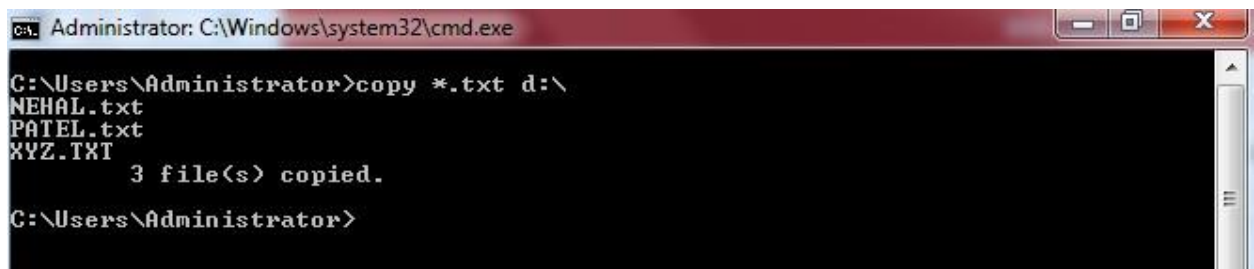
C:\Users\Administrator>move 1.py c:\TC
1 file(s) moved.

C:\Users\Administrator>
```

**15) COPY**

Allows the user to copy one or more files to an alternate location.

**copy \*.txt d:\**



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>copy *.txt d:\
NEHAL.txt
PAHEL.txt
XYZ.TXT
3 file(s) copied.

C:\Users\Administrator>
```

**16) DOSKEY**

Doskey is an MS-DOS utility that allows a user to keep a history of commands used on the computer. Doskey allows frequently used commands to be used without having to type the command each time its needed.

```

Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>DOSKEY /HISTORY
CLS
DOSKEY /HISTORY
C:\Users\Administrator>

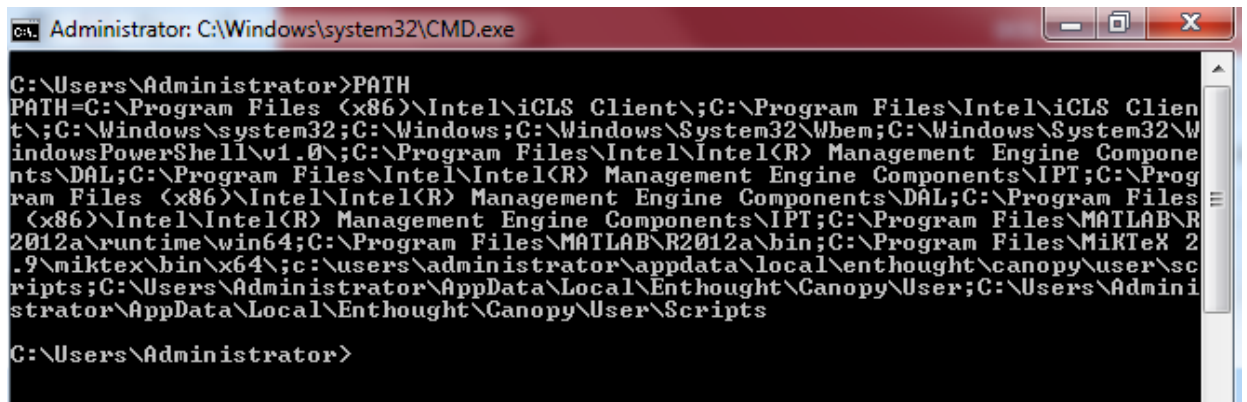
```

### Option keys

<b>UP,DOWN</b>	arrows recall commands
<b>Esc</b>	clears current command
<b>F7</b>	displays command history
<b>Alt+F7</b>	clears command history
<b>[chars]F8</b>	searches for command beginning with [chars]
<b>F9</b>	selects a command by number
<b>Alt+F10</b>	clears macro definitions

### 17) PATH

Path is used to specify the location where MS-DOS looks when using a command. Typing "path" by itself shows the current path information.



The screenshot shows a Windows Command Prompt window titled "Administrator: C:\Windows\system32\CMD.exe". The command prompt is at the C:\Users\Administrator> prompt. The user has entered the command 'PATH', and the output is displayed as a single line of text. The output lists various directories in the system's PATH, including Intel iCLS Client, Windows system32, Windows, Windows\System32\Wbem, Windows PowerShell\vi.0, Intel Management Engine Components\DAL, Intel Management Engine Components\IPT, MATLAB\R2012a\runtime\win64, MATLAB\R2012a\bin, MikTeX 2.9\miktex\bin\x64, and the user's local Canopy user scripts directory.

```
C:\Users\Administrator>PATH
PATH=C:\Program Files (x86)\Intel\iCLS Client\;C:\Program Files\Intel\iCLS Client\;C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Program Files\Intel\Intel(R) Management Engine Components\DAL;C:\Program Files\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files (x86)\Intel\Intel(R) Management Engine Components\DAL;C:\Program Files (x86)\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files\MATLAB\R2012a\runtime\win64;C:\Program Files\MATLAB\R2012a\bin;C:\Program Files\MikTeX 2.9\miktex\bin\x64\;c:\users\administrator\AppData\Local\enthought\canopy\user\scripts;C:\Users\Administrator\AppData\Local\Enthought\Canopy\User;C:\Users\Administrator\AppData\Local\Enthought\Canopy\User\Scripts
C:\Users\Administrator>
```



## External Commands:

### 1) ATTRIB

Attrib allows a user to change the [attributes](#) of a file or files.

R	Read-only file attribute.
A	Archive file attribute.
H	Hidden file attribute.

```

Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>attrib/?
Displays or changes file attributes.

ATTRIB [+R | -R] [+A | -A ] [+S | -S] [+H | -H] [+I | -I]
      [drive:][path][filename] [/S [/D] [/L]]

+    Sets an attribute.
-    Clears an attribute.
R    Read-only file attribute.
A    Archive file attribute.
S    System file attribute.
H    Hidden file attribute.
I    Not content indexed file attribute.
[drive:][path][filename]
    Specifies a file or files for attrib to process.
/S   Processes matching files in the current folder
    and all subfolders.
/D   Processes folders as well.
/L   Work on the attributes of the Symbolic Link versus
    the target of the Symbolic Link

C:\Users\Administrator>cd\
C:\>cd nehal
C:\nehal>attrib -h hello.txt
C:\nehal>attrib +h hello.txt
C:\nehal>
  
```

### 2) FORMAT

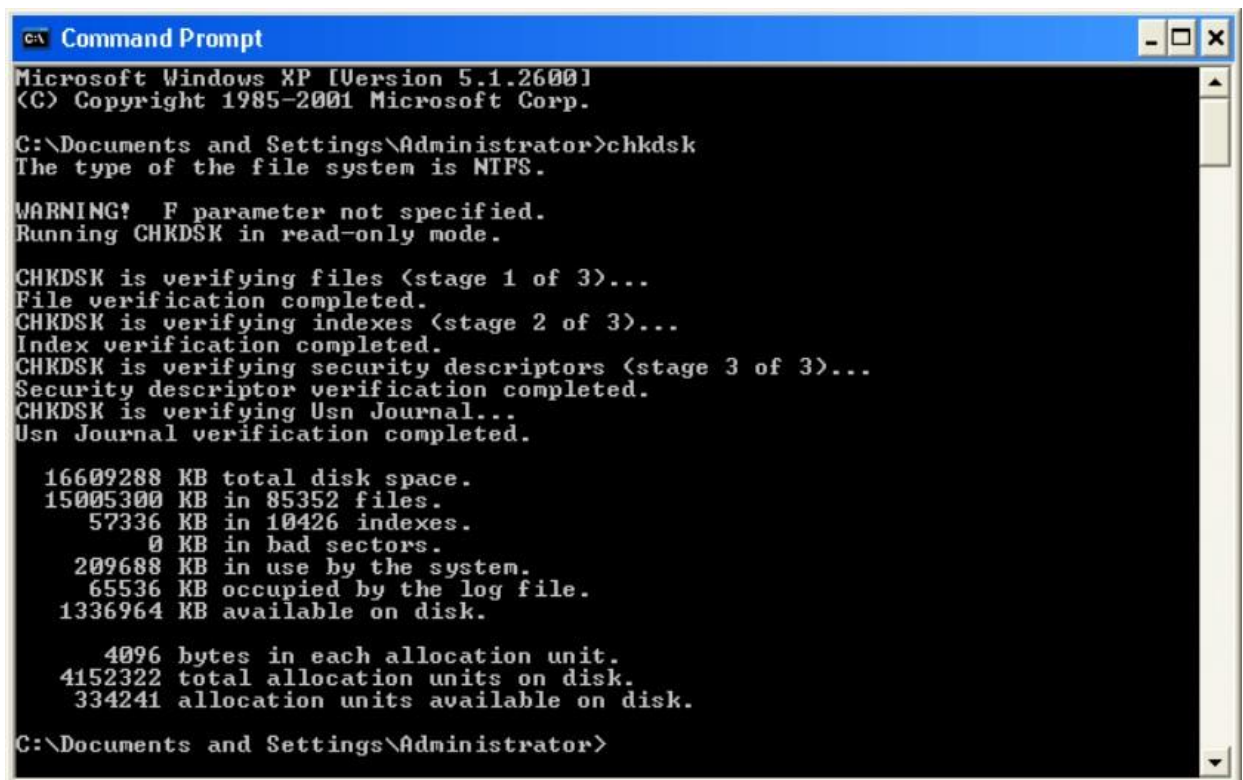
Format is used to erase information off of a computer diskette or fixed drive.



```
Administrator: C:\Windows\system32\cmd.exe - format g:/q
C:\>format g:/q
Insert new disk for drive G:
and press ENTER when ready...
The type of the file system is FAT32.
QuickFormatting 7435M
Initializing the File Allocation Table (FAT)...
Volume label (11 characters, ENTER for none)?
```

### 3) CHKDSK

Chkdsk is a utility that checks the computer's hard drive status for any cross-linked or any additional errors with the hard drive.



```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>chkdsk
The type of the file system is NTFS.

WARNING! F parameter not specified.
Running CHKDSK in read-only mode.

CHKDSK is verifying files (stage 1 of 3)...
File verification completed.
CHKDSK is verifying indexes (stage 2 of 3)...
Index verification completed.
CHKDSK is verifying security descriptors (stage 3 of 3)...
Security descriptor verification completed.
CHKDSK is verifying Usn Journal...
Usn Journal verification completed.

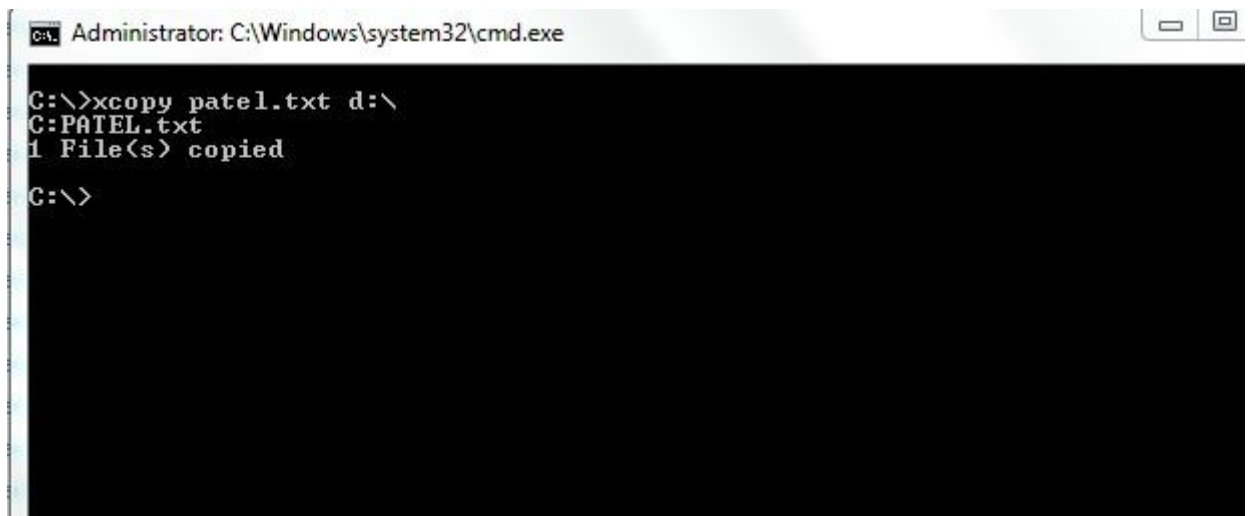
16609288 KB total disk space.
15005300 KB in 85352 files.
 57336 KB in 10426 indexes.
   0 KB in bad sectors.
 209688 KB in use by the system.
 65536 KB occupied by the log file.
1336964 KB available on disk.

 4096 bytes in each allocation unit.
4152322 total allocation units on disk.
334241 allocation units available on disk.

C:\Documents and Settings\Administrator>
```

### 4) SCANDISK

Microsoft ScanDisk was first introduced with MS-DOS 6.2 and is a [software](#) utility capable of checking the [hard drive](#) and [floppy diskette drive](#) for any disk errors.

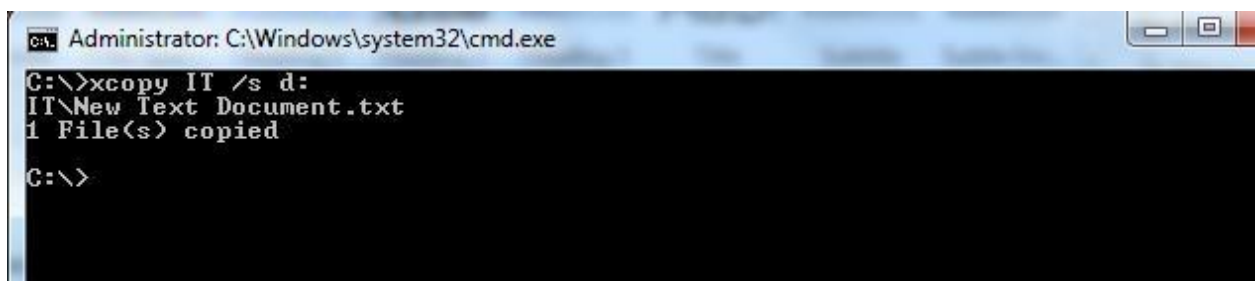


```
Administrator: C:\Windows\system32\cmd.exe

C:\>xcopy patel.txt d:\
C:\>PATEL.txt
1 File(s) copied

C:\>
```

Move one folder from one drive to another.



```
Administrator: C:\Windows\system32\cmd.exe

C:\>xcopy IT /s d:
IT\New Text Document.txt
1 File(s) copied

C:\>
```