



# Bangladesh University of Professionals

## Lab Report

**Course Name** : Operating Systems Laboratory  
**Course Code** : CSE-3108  
**Department** : Computer Science & Technology  
**Faculty** : Faculty of Science & Technology

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**Experiment No:** 01

**Experiment Name:** Basic Commands of Windows Operating System.

**Platform:** Command Prompt (Windows 11)

## Introduction:

The Windows Command Prompt is a command-line interface (CLI) application available in most versions of the Windows operating system. It allows users to interact with the system by typing text commands instead of using the graphical user interface (GUI). Unlike GUIs, it relies entirely on text commands, which means no buttons, icons, or windows. Users type specific commands, and the system responds with text-based feedback. Also, Command Prompt allows users to create batch scripts (files with a *.bat* extension) to automate repetitive tasks like moving files, creating directories, and running applications. It provides direct access to file management, system settings, and network diagnostics, making it valuable for troubleshooting, system configuration, and automating tasks through scripts. Many developers and advanced users rely entirely on the Command Prompt for tasks that require precision and efficiency, such as managing files, running batch commands, and performing network troubleshooting.

## Commands:

### 1. systeminfo:

The *systeminfo* command in Windows provides detailed information about the computer's system configuration and specifications, as shown in the screenshot below:

```
C:\Users\MT Ekleel>systeminfo

Host Name:                  DESKTOP-D4MLQEJ
OS Name:                    Microsoft Windows 11 Pro
OS Version:                 10.0.22631 N/A Build 22631
OS Manufacturer:           Microsoft Corporation
OS Configuration:           Standalone Workstation
OS Build Type:               Multiprocessor Free
Registered Owner:           MT Ekleel
Registered Organization:
Product ID:                  00331-10000-00001-AA686
Original Install Date:       7/20/2024, 3:48:39 AM
System Boot Time:            11/1/2024, 5:43:04 PM
System Manufacturer:        HP
System Model:                HP EliteBook 840 14 inch G9 Notebook PC
System Type:                 x64-based PC
Processor(s):                1 Processor(s) Installed.
                              [01]: Intel(R) Family 6 Model 154 Stepping 4 GenuineIntel ~1700 Mhz
BIOS Version:                HP U71 Ver. 01.12.01, 7/30/2024
Windows Directory:           C:\Windows
System Directory:            C:\Windows\system32
Boot Device:                 \Device\HarddiskVolume1
System Locale:                en-us;English (United States)
Input Locale:                en-us;English (United States)
Time Zone:                   (UTC+06:00) Dhaka
Total Physical Memory:        16,824 MB
Available Physical Memory:    10,413 MB
Virtual Memory: Max Size:     35,959 MB
Virtual Memory: Available:    28,780 MB
Virtual Memory: In Use:       7,179 MB
Page File Location(s):        C:\pagefile.sys
Domain:                       WORKGROUP
Logon Server:                 \\DESKTOP-D4MLQEJ
Hotfix(s):                    7 Hotfix(s) Installed.
                              [01]: KB5044035
                              [02]: KB5012170
                              [03]: KB5027397
                              [04]: KB5044285
                              [05]: KB5043937
                              [06]: KB5043143
                              [07]: KB5046247
Network Card(s):              1 NIC(s) Installed.
                              [01]: Intel(R) Wi-Fi 6E AX211 160MHz
                                  Connection Name: Wi-Fi
                                  DHCP Enabled:    Yes
                                  DHCP Server:     192.168.0.1
                                  IP address(es):
                                      [01]: 192.168.0.221
Hyper-V Requirements:         VM Monitor Mode Extensions: Yes
                              Virtualization Enabled In Firmware: Yes
                              Second Level Address Translation: Yes
                              Data Execution Prevention Available: Yes
```

## 2. **ver:**

The *ver* command in Windows displays the version number of the operating system. When run in Command Prompt, it simply outputs the current Windows version, as shown below:

```
C:\Users\MT Ekleel>ver  
Microsoft Windows [Version 10.0.22631.4317]
```

## 3. **date:**

The *date* command in Windows displays the current system date and allows the user to set a new date. When it's run on its own, it shows the current date and prompts for a new one, as shown below:

```
C:\Users\MT Ekleel>date  
The current date is: Sat 11/02/2024  
Enter the new date: (mm-dd-yy) 12/03/2025
```

## 4. **date /t:**

The *date /t* command, on the other hand, displays the current date without prompting for a new one. The */t* switch tells Command Prompt to show the date in a "display-only" format, as shown below:

```
C:\Users\MT Ekleel>date /t  
Fri 11/01/2024
```

## 5. **time:**

The *time* command in Windows displays the current system time and allows the user to set a new time. When it's run on its own, it shows the current time and prompts for a new one, as shown below:

```
C:\Users\MT Ekleel>time  
The current time is: 12:05:37.53  
Enter the new time: 14:10:00.00
```

## 6. **time /t:**

The *time /t* command displays the current time without prompting for a new one, as shown below:

```
C:\Users\MT Ekleel>time /t  
12:00 PM
```

## 7. *drivename:*

The *drivename:* command in Windows Command Prompt allows the user to switch to a specific drive. For example, typing *C:* or *D:* and pressing Enter will change the current directory context to that drive, as shown below:

```
C:\Users\MT Ekleel>F:
F:\>|
```

## 8. *dir:*

The *dir* command in Windows displays a list of files and directories in the current directory. When *dir* is typed in Command Prompt, it shows details like file names, sizes, and the date and time they were last modified. It also provides directory-specific information, such as the total number of files and the amount of free disk space. The command supports various options (e.g., *dir /a*, *dir /p*, *dir /s*) to filter results, show hidden files, display results page by page, or list files in all subdirectories, as shown below:

```
F:\>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\

10/17/2024  02:13 PM    <DIR>          AbbasPC.Net_Bandicam 7.1.1.2158
10/22/2024  08:32 PM                36 Afterburners.txt
10/24/2024  03:17 PM    <DIR>          asm practice
10/23/2024  09:07 PM                5,363,768 DBMS Project Proposal (Final...idk...idc).pptx
08/20/2024  04:47 PM    <DIR>          Ebooks
08/31/2024  03:57 PM                1,990,537 Emu8086.exe
11/01/2024  02:34 PM    <DIR>          Games
10/30/2024  07:03 PM    <DIR>          gta v mods
11/01/2024  09:16 PM                7,337,947,628 GTA5 2024-11-01 20-36-32-379.mp4
11/01/2024  05:42 PM    <DIR>          ISLC v1.0.3.3
10/21/2024  07:46 PM    <DIR>          Kerbal Space Program
08/31/2024  09:47 PM                238,928,968 Packet_Tracer822_64bit_setup_signed.exe
03/05/2017  09:43 AM                313 Read Me.txt
10/06/2024  10:28 PM    <DIR>          scoped_dir3332_1004824669
09/09/2024  12:33 PM                1,639,669 ScriptHookV_1.0.3274.0.zip
02/01/2017  04:49 AM                120 Softhound.com.url
11/01/2024  02:08 PM    <DIR>          Solar System Viewer
10/04/2024  05:02 PM    <DIR>          sublime_text_build_4180_x64
10/16/2024  06:35 PM    <DIR>          tmp
10/08/2024  12:25 PM                215,221 user_ee000000deadc0de.zip
          9 File(s)  7,586,086,260 bytes
          11 Dir(s) 103,197,077,504 bytes free
```

## 9. *cd folder name:*

The *cd* (change directory) command in Windows Command Prompt is used to navigate between directories in the file system, as shown below:

```
PS F:\> cd Games
PS F:\Games> dir

Directory: F:\Games

Mode                LastWriteTime         Length Name
----                -
d-----          11/1/2024   8:12 PM                CKAN Mods
d-----          11/1/2024   8:35 PM                Grand Theft Auto V
d-----         10/26/2024   8:22 PM                GTA IV
d-----          11/2/2024   1:18 PM                Kerbal Space Program
-a-----         10/31/2024  10:06 PM             5743768 ckan.exe
-a-----          4/13/2020    2:14 AM          640057344 componentpeds.img
-a-----         11/11/2016    5:34 PM             190976 PLD.asi
-a-----         11/11/2016    5:27 PM              379 PLD.ini
```

## 10. cd..:

This command enables the user to move up one level in the directory hierarchy, changing the current directory to the parent directory of the current folder, as shown below:

```
PS F:\Games> cd "GTA IV"
PS F:\Games\GTA IV> cd..
PS F:\Games> |
```

## 11. cd \:

This command enables the user to go directly to the root directory of the current drive, regardless of the current directory depth, as shown below:

```
PS F:\Games\Kerbal Space Program> cd \
PS F:\> |
```

## 12. cd *name of the directory*:

Typing cd followed by a directory name (e.g., cd E:\Documents\College) changes the current working directory to the specified one, as shown below:

```
PS F:\> cd F:\tmp\Ebooks
PS F:\tmp\Ebooks> |
```

## 13. mkdir *name*:

The mkdir (make directory) command in Windows Command Prompt is used to create a new directory or folder. By typing mkdir followed by a folder name (e.g., mkdir NewFolder), the user can create a directory with that name in the current location. The user can also specify a path to create a directory in a different location (e.g., mkdir C:\Users\Name\Documents\NewFolder). It can be used as shown in the screenshot below:

```
PS F:\> mkdir "Text files"

Directory: F:\

Mode                LastWriteTime         Length Name
----                -
d-----         11/2/2024   5:45 PM             Text files

PS F:\> dir

Directory: F:\

Mode                LastWriteTime         Length Name
----                -
d-----         10/17/2024   2:13 PM             AbbasPC.Net_Bandicam 7.1.1.2158
d-----         10/24/2024   3:17 PM             asm practice
d-----         8/20/2024    4:47 PM             Ebooks
da-----         11/2/2024   5:34 PM             Games
d-----         11/2/2024   5:32 PM             gta v mods
d-----         11/2/2024   1:29 PM             ISLC v1.0.3.3
d-----         10/21/2024   7:46 PM             Kerbal Space Program
d-----         10/6/2024   10:28 PM             scoped_dir3332_1004824669
d-----         11/1/2024    2:08 PM             Solar System Viewer
d-----         10/4/2024   5:02 PM             sublime_text_build_4180_x64
d-----         11/2/2024   5:45 PM             Text files
d-----         10/16/2024   6:35 PM             tmp
-a-----         10/22/2024   8:32 PM             36 Afterburners.txt
-a-----         10/23/2024   9:07 PM             5363768 DBMS Project Proposal (Final...idk...idc).pptx
-a-----         8/31/2024   3:57 PM             1990537 Emu8086.exe
-a-----         11/1/2024   9:16 PM             7337947628 GTA5 2024-11-01 20-36-32-379.mp4
-a-----         8/31/2024   9:47 PM             238928968 Packet_Tracer822_64bit_setup_signed.exe
-a-----         10/8/2024   12:25 PM             215221 user_ee00000deadcd0de.zip
```

#### 14. `type nul> filename:`

The command `type nul > filename` creates an empty file named *filename* where the file type will be determined by its extension, as shown below:

```
F:\Text_files>type nul> Ekleel.txt

F:\Text_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\Text_files

11/02/2024  06:10 PM    <DIR>          .
11/02/2024  06:10 PM                0 Ekleel.txt
               1 File(s)                0 bytes
               1 Dir(s)  103,251,730,432 bytes free
```

#### 15. `ren oldfilename newfilename:`

The *ren* (rename) command in Windows Command Prompt is used to rename files or directories. The syntax `ren oldfilename newfilename` changes the name of *oldfilename* to *newfilename* in the current directory, as shown below:

```
F:\Text_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\Text_files

11/02/2024  06:10 PM    <DIR>          .
11/02/2024  06:10 PM                0 Ekleel.txt
               1 File(s)                0 bytes
               1 Dir(s)  103,251,730,432 bytes free

F:\Text_files>ren Ekleel.txt MTEkleel.txt

F:\Text_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

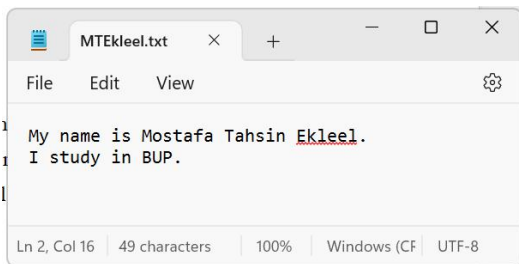
Directory of F:\Text_files

11/02/2024  06:13 PM    <DIR>          .
11/02/2024  06:10 PM                0 MTEkleel.txt
               1 File(s)                0 bytes
               1 Dir(s)  103,251,730,432 bytes free
```

## 16. **notepad** *filename*:

The `notepad filename` command in Windows Command Prompt opens the specified file (*filename*) in Notepad, the default text editor for Windows. For example, typing `notepad notes.txt` will open the file `notes.txt` in Notepad if it exists. If the file doesn't exist, Notepad will create a new, blank file with that name. This command can be used as follows:

```
F:\Text_files>notepad MTEkleel.txt
```



## 17. **del** *filename*:

The `del` command in Windows Command Prompt is used to delete one or more files. By typing `del` followed by the filename (e.g., `del file.txt`), the user can remove that file from the current directory. The user can also use wildcards like `*` to delete multiple files at once, such as `del *.txt` to delete all `.txt` files in the directory. However, the `del` command does not delete directories, it only deletes files. It can be used as follows:

```
F:\Text_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\Text_files

11/02/2024  06:13 PM    <DIR>          .
11/02/2024  06:54 PM                50 MTEkleel.txt
               1 File(s)                50 bytes
               1 Dir(s)  103,251,730,432 bytes free

F:\Text_files>del MTEkleel.txt

F:\Text_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\Text_files

11/02/2024  06:57 PM    <DIR>          .
               0 File(s)                 0 bytes
               1 Dir(s)  103,251,730,432 bytes free
```

## 18. move *filename foldername*:

The move *filename foldername* command in Windows Command Prompt is used to move a file from one location to another. By typing move followed by the filename and then the target folder name (e.g., move *report.txt Documents*), the command relocates *report.txt* from the current directory to the *Documents* folder. This command can also be used to move multiple files at once by using wildcards, such as move \*.txt Backup to move all .txt files to the Backup folder. It can be used as follows:

```
F:\Text_files> dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\Text_files

11/02/2024  07:05 PM    <DIR>          .
11/02/2024  07:05 PM                21 mte.txt
               1 File(s)                21 bytes
               1 Dir(s)  103,251,730,432 bytes free

F:\Text_files>move mte.txt "F:\new_files"
1 file(s) moved.

F:\Text_files>cd "F:\new_files"

F:\New_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\New_files

11/02/2024  07:07 PM    <DIR>          .
11/02/2024  07:05 PM                21 mte.txt
               1 File(s)                21 bytes
               1 Dir(s)  103,251,730,432 bytes free
```

## 19. type *filename*:

The type *filename* command in Windows Command Prompt displays the contents of a specified text file directly in the Command Prompt window, as shown below:

```
F:\New_files>type mte.txt
My name is MT Ekleel.
F:\New_files>|
```

## 20. del *foldername*:

The del *foldername* command in Windows Command Prompt does not delete folders; it only deletes files, as shown below:

```
F:\New_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\New_files

11/02/2024  07:36 PM    <DIR>          .
11/02/2024  07:36 PM                14 demo.txt
11/02/2024  07:05 PM                21 mte.txt
               2 File(s)                35 bytes
               1 Dir(s)  103,251,730,432 bytes free

F:\New_files>cd .
F:\>del New_files
F:\New_files\*, Are you sure (Y/N)? Y

F:\>cd New_files
F:\New_files>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\New_files

11/02/2024  07:37 PM    <DIR>          .
               0 File(s)                0 bytes
               1 Dir(s)  103,251,730,432 bytes free
```



## 21. rmdir *foldername*:

The rmdir foldername command in Windows Command Prompt deletes an empty folder (directory) specified by foldername. If the folder contains files or subdirectories, it won't be deleted with this basic command. To remove a folder along with all its contents, including subdirectories and files, rmdir foldername /s has to be used. It can be used as follows:

```
F:\>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\

10/17/2024  02:13 PM  <DIR>          AbbasPC.Net_Bandicam 7.1.1.2158
10/22/2024  08:32 PM                36 Afterburners.txt
10/24/2024  03:17 PM  <DIR>          asm practice
10/23/2024  09:07 PM                5,363,768 DBMS Project Proposal (Final...idk...idc).pptx
08/31/2024  03:57 PM                1,990,537 Emu8086.exe
11/02/2024  05:34 PM  <DIR>          Games
11/02/2024  05:32 PM  <DIR>          gta v mods
11/01/2024  09:16 PM                7,337,947,628 GTA5 2024-11-01 20-36-32-379.mp4
11/02/2024  01:29 PM  <DIR>          ISLC v1.0.3.3
10/21/2024  07:46 PM  <DIR>          Kerbal Space Program
11/02/2024  07:37 PM  <DIR>          New_files
08/31/2024  09:47 PM                238,928,968 Packet_Tracer822_64bit_setup_signed.exe
11/01/2024  02:08 PM  <DIR>          Solar System Viewer
10/04/2024  05:02 PM  <DIR>          sublime_text_build_4180_x64
11/02/2024  07:07 PM  <DIR>          Text_files
11/02/2024  06:00 PM  <DIR>          tmp
10/08/2024  12:25 PM                215,221 user_ee000000deadc0de.zip
               6 File(s)  7,584,446,158 bytes
               11 Dir(s)  103,251,730,432 bytes free

F:\>rmdir Text_files

F:\>dir
Volume in drive F has no label.
Volume Serial Number is EA20-9A06

Directory of F:\

10/17/2024  02:13 PM  <DIR>          AbbasPC.Net_Bandicam 7.1.1.2158
10/22/2024  08:32 PM                36 Afterburners.txt
10/24/2024  03:17 PM  <DIR>          asm practice
10/23/2024  09:07 PM                5,363,768 DBMS Project Proposal (Final...idk...idc).pptx
08/31/2024  03:57 PM                1,990,537 Emu8086.exe
11/02/2024  05:34 PM  <DIR>          Games
11/02/2024  05:32 PM  <DIR>          gta v mods
11/01/2024  09:16 PM                7,337,947,628 GTA5 2024-11-01 20-36-32-379.mp4
11/02/2024  01:29 PM  <DIR>          ISLC v1.0.3.3
10/21/2024  07:46 PM  <DIR>          Kerbal Space Program
11/02/2024  07:37 PM  <DIR>          New_files
08/31/2024  09:47 PM                238,928,968 Packet_Tracer822_64bit_setup_signed.exe
11/01/2024  02:08 PM  <DIR>          Solar System Viewer
10/04/2024  05:02 PM  <DIR>          sublime_text_build_4180_x64
11/02/2024  06:00 PM  <DIR>          tmp
10/08/2024  12:25 PM                215,221 user_ee000000deadc0de.zip
               6 File(s)  7,584,446,158 bytes
               10 Dir(s)  103,251,730,432 bytes free
```

## 22. cls:

The cls command in Windows Command Prompt clears the current screen of all text and commands, providing a clean slate for further inputs. This command does not affect any running processes; it simply refreshes the display.

**Conclusion:**

This experiment is helpful to learn the basic commands of a Command Line Interface like Windows Command Prompt or Windows PowerShell and how to use the commands to perform various tasks. The Windows command line (Command Prompt) is a powerful tool that enhances efficiency and control over system operations by allowing users to execute commands quickly, automate repetitive tasks through scripts, and access advanced system features that may not be available via the graphical user interface. It is particularly useful for troubleshooting and repairing system issues, managing network settings, and performing file manipulation with precision. Additionally, it consumes fewer resources, making it suitable for environments with limited capabilities.