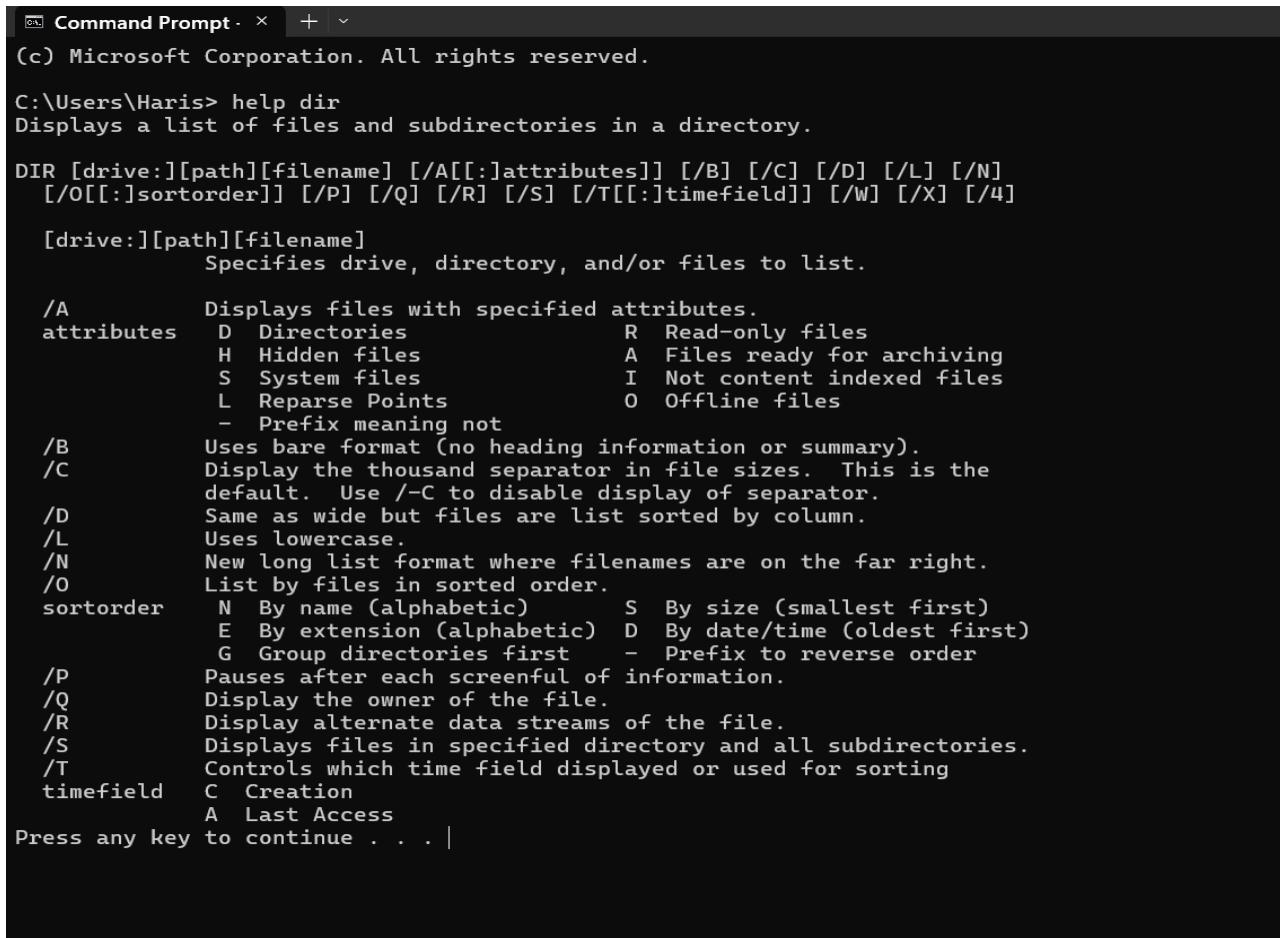


## **Output:**

### **PRACTICAL - 1**

**John has recently started a new job as system administrator in MNC. He is dealing with computers having different operating systems such as Windows, LINUX and UNIX. How will he be able to interact with the system by using different operating**

1. Display the user manual of any command that we can run on the terminal.



```
Command Prompt · × + ▾
(c) Microsoft Corporation. All rights reserved.

C:\Users\Haris> help dir
Displays a list of files and subdirectories in a directory.

DIR [drive:][path][filename] [/A[[:attributes]]] [/B] [/C] [/D] [/L] [/N]
    [/O[[:]sortorder]] [/P] [/Q] [/R] [/S] [/T[[:]timefield]] [/W] [/X] [/4]

[drive:][path][filename]
    Specifies drive, directory, and/or files to list.

/A      Displays files with specified attributes.
attributes   D  Directories          R  Read-only files
              H  Hidden files        A  Files ready for archiving
              S  System files         I  Not content indexed files
              L  Reparse Points       O  Offline files
              - Prefix meaning not
/B      Uses bare format (no heading information or summary).
/C      Display the thousand separator in file sizes. This is the
        default. Use /-C to disable display of separator.
/D      Same as wide but files are list sorted by column.
/L      Uses lowercase.
/N      New long list format where filenames are on the far right.
/O      List by files in sorted order.
sortorder   N  By name (alphabetic)   S  By size (smallest first)
            E  By extension (alphabetic) D  By date/time (oldest first)
            G  Group directories first  -  Prefix to reverse order
/P      Pauses after each screenful of information.
/Q      Display the owner of the file.
/R      Display alternate data streams of the file.
/S      Displays files in specified directory and all subdirectories.
/T      Controls which time field displayed or used for sorting
timefield   C  Creation
              A  Last Access
Press any key to continue . . . |
```

2. Change the current working directory of the user

```
Microsoft Windows [Version 10.0.26100.6725]
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\Haris>cd Downloads
```

```
C:\Users\Haris\Downloads>_
```

### 3. List all the contents in the current working directory.

```
Command Prompt  + | ▾

C:\Users\Haris>dir
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris

08/18/2025  08:49 PM    <DIR>        .
02/04/2025  11:37 PM    <DIR>        ..
08/18/2025  08:49 PM    <DIR>        .idlerc
05/27/2024  03:24 PM    <DIR>        .vscode
02/05/2025  12:43 AM    <DIR>        Contacts
12/05/2025  08:23 PM    <DIR>        Desktop
09/19/2025  12:35 AM    <DIR>        Documents
12/05/2025  07:59 PM    <DIR>        Downloads
02/05/2025  12:43 AM    <DIR>        Favorites
02/05/2025  12:43 AM    <DIR>        Links
09/30/2025  11:39 PM    <DIR>        Music
12/05/2025  07:55 PM    <DIR>        OneDrive
12/05/2025  07:59 PM    <DIR>        Pictures
02/05/2025  12:43 AM    <DIR>        Saved Games
02/05/2025  12:43 AM    <DIR>        Searches
02/05/2025  12:43 AM    <DIR>        Videos
          0 File(s)           0 bytes
         16 Dir(s)   116,623,745,024 bytes free

C:\Users\Haris>
```

#### 4. Read modify or concatenate files.

The screenshot shows a Windows Command Prompt window and a Notepad window. The Command Prompt window has the following text:  
C:\Users\Haris>cd  
C:\Users\Haris  
C:\Users\Haris>notepad file1.txt  
C:\Users\Haris>

The Notepad window is titled "file1.txt". It contains the following text:  
#include graphics.h  
graphicsae1.txt  
file.txt  
file1.txt  
This is File One  
Welcome to System Administration

The screenshot shows a Windows Command Prompt window and a Notepad window. The Command Prompt window has the following text:  
C:\Users\Haris>cd  
C:\Users\Haris  
C:\Users\Haris>notepad file1.txt  
C:\Users\Haris>notepad file2.txt  
C:\Users\Haris>

The Notepad window has two tabs: "file1.txt" and "file2.txt". The "file1.txt" tab is active and contains the following text:  
#include graph  
graphicsae1.txt  
file.txt  
file1.txt  
This is file one  
windows Command Prompt Practice

```
16 Dir(s) 116,888,039,424 bytes free

C:\Users\Haris>type file1.txt
This is File One
Welcome to System Administration
C:\Users\Haris>type file2.txt
This is file two
windows Command Prompt Practice
C:\Users\Haris>type file1.txt file2.txt > newfile.txt

file1.txt

file2.txt

C:\Users\Haris>type newfile.txt
This is File One
Welcome to System AdministrationThis is file two
windows Command Prompt Practice
C:\Users\Haris>
```

```
Command Prompt x + ▾

C:\Users\Haris>cd
C:\Users\Haris

C:\Users\Haris>notepad file1.txt
C:\Users\Haris>notepad file2.txt

C:\Users\Haris>dir
 Volume in drive C is OS
 Volume Serial Number is 8A8D-F2C2

 Directory of C:\Users\Haris

01/12/2026  07:52 PM    <DIR>          .
02/04/2025  11:37 PM    <DIR>          ..
08/18/2025  08:49 PM    <DIR>          .idlerc
05/27/2024  03:24 PM    <DIR>          .vscode
02/05/2025  12:43 AM    <DIR>          Contacts
12/05/2025  08:23 PM    <DIR>          Desktop
09/19/2025  12:35 AM    <DIR>          Documents
12/05/2025  07:59 PM    <DIR>          Downloads
02/05/2025  12:43 AM    <DIR>          Favorites
01/12/2026  07:39 PM          0 file.txt
01/12/2026  07:51 PM          50 file1.txt
01/12/2026  07:52 PM          49 file2.txt
02/05/2025  12:43 AM    <DIR>          Links
09/30/2025  11:39 PM    <DIR>          Music
01/12/2026  07:43 PM          0 newfile.txt
12/05/2025  07:55 PM    <DIR>          OneDrive
12/05/2025  07:59 PM    <DIR>          Pictures
02/05/2025  12:43 AM    <DIR>          Saved Games
02/05/2025  12:43 AM    <DIR>          Searches
02/05/2025  12:43 AM    <DIR>          Videos
                           4 File(s)   99 bytes
                           16 Dir(s)  116,888,039,424 bytes free

C:\Users\Haris>
```

## 5. Create a new directory under any directory

```
Command Prompt × + ▾

C:\Users\Haris>mkdir TestFolder
C:\Users\Haris>dir
 Volume in drive C is OS
 Volume Serial Number is 8A8D-F2C2

 Directory of C:\Users\Haris

01/12/2026  07:58 PM    <DIR>      .
02/04/2025  11:37 PM    <DIR>      ..
08/18/2025  08:49 PM    <DIR>
05/27/2024  03:24 PM    <DIR>
02/05/2025  12:43 AM    <DIR>      Contacts
12/05/2025  08:23 PM    <DIR>      Desktop
09/19/2025  12:35 AM    <DIR>      Documents
12/05/2025  07:59 PM    <DIR>      Downloads
02/05/2025  12:43 AM    <DIR>      Favorites
01/12/2026  07:39 PM      0 file.txt
01/12/2026  07:51 PM      50 file1.txt
01/12/2026  07:52 PM      49 file2.txt
02/05/2025  12:43 AM    <DIR>      Links
09/30/2025  11:39 PM    <DIR>      Music
01/12/2026  07:54 PM      99 newfile.txt
12/05/2025  07:55 PM    <DIR>      OneDrive
12/05/2025  07:59 PM    <DIR>      Pictures
02/05/2025  12:43 AM    <DIR>      Saved Games
02/05/2025  12:43 AM    <DIR>      Searches
01/12/2026  07:58 PM    <DIR>      TestFolder
02/05/2025  12:43 AM    <DIR>      Videos
               4 File(s)           198 bytes
              17 Dir(s)   116,885,032,960 bytes free

C:\Users\Haris>
```

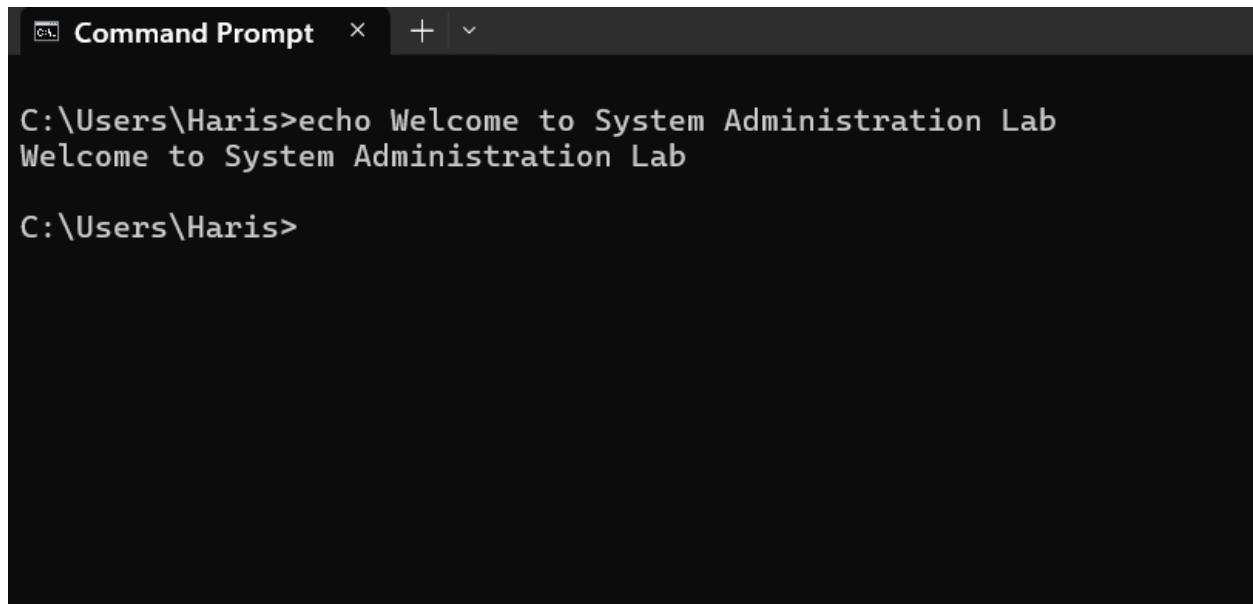
## 6. Display the current working directory of the terminal

```
Command Prompt × + ▾

C:\Users\Haris>echo %cd%
C:\Users\Haris

C:\Users\Haris>
```

7. Write its arguments to standard output



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the command "echo Welcome to System Administration Lab" being run, and the output "Welcome to System Administration Lab" is displayed below it. The prompt "C:\Users\Haris>" is visible at the bottom.

```
C:\Users\Haris>echo Welcome to System Administration Lab
Welcome to System Administration Lab

C:\Users\Haris>
```

8. Remove a file

## Command Prompt

```
C:\Users\Haris>notepad delete_me.txt

C:\Users\Haris>dir
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris

01/12/2026  08:09 PM    <DIR>          .
02/04/2025  11:37 PM    <DIR>          ..
08/18/2025  08:49 PM    <DIR>          .idlerc
05/27/2024  03:24 PM    <DIR>          .vscode
02/05/2025  12:43 AM    <DIR>          Contacts
01/12/2026  08:09 PM    <DIR>          0 delete_me.txt
12/05/2025  08:23 PM    <DIR>          Desktop
09/19/2025  12:35 AM    <DIR>          Documents
12/05/2025  07:59 PM    <DIR>          Downloads
02/05/2025  12:43 AM    <DIR>          Favorites
01/12/2026  07:39 PM    <DIR>          0 file.txt
01/12/2026  07:51 PM    <DIR>          50 file1.txt
01/12/2026  07:52 PM    <DIR>          49 file2.txt
02/05/2025  12:43 AM    <DIR>          Links
09/30/2025  11:39 PM    <DIR>          Music
01/12/2026  07:54 PM    <DIR>          99 newfile.txt
12/05/2025  07:55 PM    <DIR>          OneDrive
12/05/2025  07:59 PM    <DIR>          Pictures
02/05/2025  12:43 AM    <DIR>          Saved Games
02/05/2025  12:43 AM    <DIR>          Searches
01/12/2026  07:58 PM    <DIR>          TestFolder
02/05/2025  12:43 AM    <DIR>          Videos
      5 File(s)           198 bytes
     17 Dir(s)   116,927,111,168 bytes free

C:\Users\Haris>del delete_me.txt

C:\Users\Haris>dir
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris

01/12/2026  08:09 PM    <DIR>          .
02/04/2025  11:37 PM    <DIR>          ..
08/18/2025  08:49 PM    <DIR>          .idlerc
05/27/2024  03:24 PM    <DIR>          .vscode
02/05/2025  12:43 AM    <DIR>          Contacts
12/05/2025  08:23 PM    <DIR>          Desktop
09/19/2025  12:35 AM    <DIR>          Documents
12/05/2025  07:59 PM    <DIR>          Downloads
02/05/2025  12:43 AM    <DIR>          Favorites
01/12/2026  07:39 PM    <DIR>          0 file.txt
01/12/2026  07:51 PM    <DIR>          50 file1.txt
01/12/2026  07:52 PM    <DIR>          49 file2.txt
02/05/2025  12:43 AM    <DIR>          Links
09/30/2025  11:39 PM    <DIR>          Music
01/12/2026  07:54 PM    <DIR>          99 newfile.txt
12/05/2025  07:55 PM    <DIR>          OneDrive
12/05/2025  07:59 PM    <DIR>          Pictures
02/05/2025  12:43 AM    <DIR>          Saved Games
02/05/2025  12:43 AM    <DIR>          Searches
01/12/2026  07:58 PM    <DIR>          TestFolder
02/05/2025  12:43 AM    <DIR>          Videos
      4 File(s)           198 bytes
     17 Dir(s)   116,926,971,904 bytes free

C:\Users\Haris>
```

## 9.Delete a directory.

```
Command Prompt  x  +  ▾
C:\Users\Haris>mkdir RemoveFolder
C:\Users\Haris>rmdir RemoveFolder
C:\Users\Haris>dir
 Volume in drive C is OS
 Volume Serial Number is 8A8D-F2C2

 Directory of C:\Users\Haris

01/12/2026  08:11 PM    <DIR>      .
02/04/2025  11:37 PM    <DIR>      ..
08/18/2025  08:49 PM    <DIR>      .idlerc
05/27/2024  03:24 PM    <DIR>      .vscode
02/05/2025  12:43 AM    <DIR>      Contacts
12/05/2025  08:23 PM    <DIR>      Desktop
09/19/2025  12:35 AM    <DIR>      Documents
12/05/2025  07:59 PM    <DIR>      Downloads
02/05/2025  12:43 AM    <DIR>      Favorites
01/12/2026  07:39 PM      0 file.txt
01/12/2026  07:51 PM      50 file1.txt
01/12/2026  07:52 PM      49 file2.txt
02/05/2025  12:43 AM    <DIR>      Links
09/30/2025  11:39 PM    <DIR>      Music
01/12/2026  07:54 PM      99 newfile.txt
12/05/2025  07:55 PM    <DIR>      OneDrive
12/05/2025  07:59 PM    <DIR>      Pictures
02/05/2025  12:43 AM    <DIR>      Saved Games
02/05/2025  12:43 AM    <DIR>      Searches
01/12/2026  07:58 PM    <DIR>      TestFolder
02/05/2025  12:43 AM    <DIR>      Videos
               4 File(s)          198 bytes
              17 Dir(s)  116,925,472,768 bytes free

C:\Users\Haris>
```

## 10.Copy a file or directory

```
Command Prompt x + ▾

C:\Users\Haris>notepad copyfile.txt
C:\Users\Haris>copyfile.txt TestFolder\
C:\Users\Haris>copy copyfile.txt TestFolder\
    1 file(s) copied.

C:\Users\Haris>dir TestFolder
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris\TestFolder

01/12/2026  08:13 PM    <DIR>        .
01/12/2026  08:12 PM    <DIR>        ..
01/12/2026  08:12 PM           0 copyfile.txt
    1 File(s)          0 bytes
    2 Dir(s)  116,925,579,264 bytes free

C:\Users\Haris>
```

## 11.Switch to root-user

```
Command Prompt x + ▾

C:\Users\Haris>runas /user:Administrator cmd
Enter the password for Administrator: |
```

## 12. Moves files and directories from one directory to another

```
Command Prompt x + ▾

C:\Users\Haris>move copyfile.txt TestFolder\
Overwrite C:\Users\Haris\TestFolder\copyfile.txt? (Yes/No/All): yes
    1 file(s) moved.

C:\Users\Haris>dir TestFolder
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris\TestFolder

01/12/2026  09:22 PM    <DIR>        .
01/12/2026  09:22 PM    <DIR>        ..
01/12/2026  08:12 PM           0 copyfile.txt
    1 File(s)          0 bytes
    2 Dir(s)  116,487,938,048 bytes free

C:\Users\Haris>0
```

### 13. Search for a particular string/ word in a txtfile

```
Command Prompt × + ▾

C:\Users\Haris>find "System" file1.txt
----- FILE1.TXT
Welcome to System Administration
```

### 14. Print the top N number of data of the given input

```
Command Prompt × + ▾

C:\Users\Haris>cd %USERPROFILE%\Documents
C:\Users\Haris\Documents>notepad input.txt
C:\Users\Haris\Documents>
C:\Users\Haris\Documents>dir
Volume in drive C is OS
Volume Serial Number is 8A8D-F2C2

Directory of C:\Users\Haris\Documents

01/12/2026  10:42 PM    <DIR>          .
01/12/2026  09:22 PM    <DIR>          ..
08/26/2023  01:34 AM    <DIR>          Custom Office Templates
10/21/2024  01:01 PM      5,339 download (1).jpg
10/21/2024  01:01 PM      5,628 download.jpg
10/21/2024  01:04 PM      9,638 download.webp
09/19/2025  12:35 AM     851,053 dsa hash[1].docx
09/06/2023  01:00 AM      36,112 farewell.docx
01/12/2026  10:44 PM      111 input.txt
01/10/2025  11:06 AM     3,323,741 new ppt2 ai.pptx
05/13/2025  11:49 PM      738,231 outputWDPOSTL.pdf
10/19/2024  09:55 PM     216,804 parakh form areeba.pdf
09/23/2024  03:00 PM    <DIR>          Rainmeter
10/21/2024  01:04 PM      8,024 shopping (1).webp
10/21/2024  01:04 PM      12,852 shopping (2).webp
10/21/2024  01:04 PM      11,820 shopping (3).webp
10/21/2024  01:04 PM      7,926 shopping.webp
10/21/2024  01:01 PM      12,058 vivo-v27-mobile-phone-500x500.webp
04/28/2025  11:46 PM      215,089 WDAREE7TH.pdf
10/21/2024  12:20 PM      1,374,966 woostify.2.3.7.zip
                           16 File(s)   6,829,392 bytes
                           4 Dir(s)  122,081,058,816 bytes free

C:\Users\Haris\Documents>powershell -command "Get-Content input.txt -TotalCount 5"
Line 1: Apple
Line 2: Banana
Line 3: Mango
Line 4: Orange
Line 5: Grapes

C:\Users\Haris\Documents>
```

15. Print the last N number of data of the given input

```
C:\Users\Haris\Documents>powershell -command "Get-Content input.txt -Tail 5"
Line 3: Mango
Line 4: Orange
Line 5: Grapes
Line 6: Pineapple
Line 7: Papaya
```

16. Remove read permission from owner of the file

```
Command Prompt  x  +  ▾
C:\Users\Haris\Documents>icacls file.txt /deny %username%:R
file.txt: The system cannot find the file specified.
Successfully processed 0 files; Failed processing 1 files

C:\Users\Haris\Documents>
```

17. Add read permission to owner plus remove write permission and add write permission to group

```
C:\Users\Haris\Documents>icacls file1.txt /grant %username%:R /deny %username%:W
file1.txt: The system cannot find the file specified.
Successfully processed 0 files; Failed processing 1 files

C:\Users\Haris\Documents>
```

18. Add write permission to owner no permission to others

```
C:\Users\Haris\Documents>icacls file1.txt /grant %username%:W /remove Everyone
file1.txt: The system cannot find the file specified.
Successfully processed 0 files; Failed processing 1 files

C:\Users\Haris\Documents>
```

19. Assign permission to users

```
C:\Users\Haris\Documents>icacls file1.txt /grant User1:F  
User1: No mapping between account names and security IDs was done.  
Successfully processed 0 files; Failed processing 1 files  
C:\Users\Haris\Documents>
```

## 20. Assign R/W/X to others

```
C:\Users\Haris\Documents>icacls file1.txt /grant Everyone:F  
file1.txt: The system cannot find the file specified.  
Successfully processed 0 files; Failed processing 1 files  
C:\Users\Haris\Documents>
```

## 21. Remove all permission from all users

```
C:\Users\Haris\Documents>icacls file1.txt /remove Everyone  
file1.txt: The system cannot find the file specified.  
Successfully processed 0 files; Failed processing 1 files
```

## 22. Remove read permission from user using absolute mode

```
C:\Users\Haris\Documents>icacls file1.txt /deny User1:R  
User1: No mapping between account names and security IDs was done.  
Successfully processed 0 files; Failed processing 1 files  
C:\Users\Haris\Documents>
```

## 23. Add R/w permission to owner no permission to group and no permission to other using absolute mode

```
C:\Users\Haris\Documents>icacls file1.txt /grant %username%:RW  
file1.txt: The system cannot find the file specified.  
Successfully processed 0 files; Failed processing 1 files  
C:\Users\Haris\Documents>
```

24. Add execute permission to owner, read permission to group and other

```
C:\Users\Haris\Documents>icacls file1.txt /grant %username%:RX Everyone:R  
file1.txt: The system cannot find the file specified.  
Successfully processed 0 files; Failed processing 1 files  
  
C:\Users\Haris\Documents>
```

25. Add execute permission to all user

```
C:\Users\Haris\Documents>icacls file1.txt /grant Everyone:RX  
file1.txt: The system cannot find the file specified.  
Successfully processed 0 files; Failed processing 1 files  
  
C:\Users\Haris\Documents>
```