

Operating System

Part 1: MSDOS

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LAB 3

Tree

- ▶ Test tree to display the content of folder in tree format

c:\> tree OS

```
C:\OS>tree
Folder PATH listing for volume Acer
Volume serial number is 3CC0-7BDB
C:..
|_CS4
|_IT4
```

Moving Files between Folders(md)(move)

- First make a directory :

md C40T

- Create a file you need to type the following:

cd.>"filename.extention"

cd.>CS340T.txt

You will find the file in the directory you have chosen.

Now type the following :

Move CS340T.txt CS340D

The file will be moved to that the directory .

- ▶ Move folder with contents

```
C:\OS>md C40T

C:\OS>      cd.>CS340T.txt

C:\OS>Move CS340T.txt CS340D
          1 file(s) moved.

C:\OS>
```

```
C:\>move c:\shire c:\os
          1 dir(s) moved.
```

Starting a File or a Program

- The **START** command will open the file or the program you want.
- Type the following:

start CS4.txt

That file will be opened.

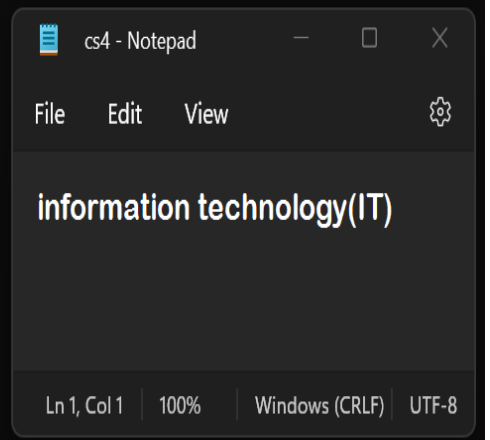
- For a program you need to type the following:
- start iexplore.exe**
- That program will be opened.

```
C:\OS>dir
Volume in drive C is Acer
Volume Serial Number is 3CC0-7BDB

Directory of C:\OS

01/18/2023  09:39 PM  <DIR>          .
01/18/2023  09:37 PM  <DIR>          C40T
01/18/2023  09:37 PM                0 CS340D
01/18/2023  09:39 PM  <DIR>          CS4
01/18/2023  09:43 PM                26 cs4.txt
01/18/2023  08:59 PM  <DIR>          IT4
                    2 File(s)                26 bytes
                    4 Dir(s) 13,181,263,872 bytes free

C:\OS>start CS4.txt
C:\OS>
```



Echo and Type commands

- The **ECHO** command prints its own arguments directly to the screen, but the output of be redirected, like any other command, to files.

Type the following at the command prompt

echo Welcome to CS3 Course> CS340D.txt

- The **TYPE** command is used to displays a file's content
- If you want to view the content of that file, type the following : **type CS3.txt**
- The content of that file will be displayed in the Command Prompt .

```
C:\OS>echo Welcome to CS3 Course> CS3.txt  
  
C:\OS>type cs3.txt  
Welcome to CS3 Course
```

Opening Pictures, Videos and Programs

- First you need to be in the same directory of the file you want to open or type the path of that file:

cd Pictures “To change your directory”

Then Type the name of the photo to be opened

Imagename.extinction

- Programs can be opened in the same way
- Go to the program's Directory to open it then type the name of the file that ends with extension “exe”

```
C:\OS>icon.png
```

```
C:\>cd program files
```

```
C:\Program Files>cd Internet Explorer
```

```
C:\Program Files\Internet Explorer>iexplore.exe
```

```
C:\Program Files\Internet Explorer>
```

Time and Date Commands

- ▶ Displays the system time and prompts the user to enter a new time.

- ❖ **To display the time**

1. Type the following at the command prompt:

time

- ▶ Displays the system date and prompts the user to enter a new date.

- ❖ **To display the date**

2. Type the following at the command prompt:

date

```
C:\OS>time
The current time is: 22:08:48.23
Enter the new time: 9:08

C:\OS>time
The current time is: 9:08:09.89
Enter the new time:

C:\OS>date
The current date is: Wed 01/18/2023
Enter the new date: (mm-dd-yy)
```

Changing the Command Prompt Colors

- COLOR command is used to change the background and the font color in the Command Prompt. Type the following at the command prompt:

color y

That will display all the information about the colors that can be used.

- To change the colors, type the following at the command prompt:

color 7c C:\OS>color 7c

```
C:\OS>color y
Sets the default console foreground and background colors.

COLOR [attr]

    attr          Specifies color attribute of console output

Color attributes are specified by TWO hex digits -- the first
corresponds to the background; the second the foreground.  Each digit
can be any of the following values:

    0 = Black      8 = Gray
    1 = Blue       9 = Light Blue
    2 = Green      A = Light Green
    3 = Aqua       B = Light Aqua
    4 = Red        C = Light Red
    5 = Purple     D = Light Purple
    6 = Yellow     E = Light Yellow
    7 = White      F = Bright White
```


Clearing and Exiting Command Prompt

- The CLS or CLRSCR command clears the terminal screen.

Type the following at the command prompt, the screen will be cleared.

cls

- To Exit the command prompt .

```
C:\OS>cls
```

Type the following at the command prompt:

exit

```
C:\OS>exit
```

How to read MS-DOS commands syntax

➤ Syntax Elements:

Format	Meaning
Lower case words (/Italic)	Information that the user must supply
Upper case words (/Bold)	Elements that the user must type exactly as shown
Ellipsis (...)	Parameter that can be repeated several times in a command line
Between brackets ([])	Optional items
Between braces ({ }); choices separated by pipe (). Example: {even odd}	Set of choices from which the user must choose only one

➤ Example:

`COPY [/V] [/N] [/Y | /-Y] [/Z] [/A | /B] source [/A | /B] [+ source [/A | /B] [+ ...]] [destination [/A | /B]]`

Changing Root Directory

- if you want to change your root directory type the following:
- for example “Removable drive (D:)”

D:

- If you want to go back to c drive type the following :

C:

```
C: \>D:  
D: \>C:  
C: \>
```

Help command

- Gives help about DOS commands.

Type the following :

Help

- list of command will be displayed in the command prompt.

```
C:\Users\Amal.M\Desktop>help
For more information on a specific command, type HELP command-name
ASSOC      Displays or modifies file extension associations.
ATTRIB     Displays or changes file attributes.
BREAK      Sets or clears extended CTRL+C checking.
BCDEDIT    Sets properties in boot database to control boot loading.
CACLS      Displays or modifies access control lists (ACLs) of files.
CALL       Calls one batch program from another.
CD          Displays the name of or changes the current directory.
CHCP       Displays or sets the active code page number.
CHDIR      Displays the name of or changes the current directory.
CHKDSK     Checks a disk and displays a status report.
CHKNTFS    Displays or modifies the checking of disk at boot time.
CLS        Clears the screen.
CMD         Starts a new instance of the Windows command interpreter.
COLOR      Sets the default console foreground and background colors.
COMP       Compares the contents of two files or sets of files.
COMPACT    Displays or alters the compression of files on NTFS partitions.
CONVERT    Converts FAT volumes to NTFS. You cannot convert the
           current drive.
COPY       Copies one or more files to another location.
DATE       Displays or sets the date.
DEL        Deletes one or more files.
DIR        Displays a list of files and subdirectories in a directory.
DISKCOMP   Compares the contents of two floppy disks.
DISKCOPY   Copies the contents of one floppy disk to another.
DISKPART   Displays or configures Disk Partition properties.
DOSKEY     Edits command lines, recalls Windows commands, and
           creates macros.
DRIVERQUERY Displays current device driver status and properties.
ECHO       Displays messages, or turns command echoing on or off.
ENDLOCAL   Ends localization of environment changes in a batch file.
ERASE      Deletes one or more files.
EXIT       Quits the CMD.EXE program (command interpreter).
FC         Compares two files or sets of files, and displays the
           differences between them.
FIND       Searches for a text string in a file or files.
FINDSTR    Searches for strings in files.
FOR        Runs a specified command for each file in a set of files.
FORMAT     Formats a disk for use with Windows.
FSUTIL     Displays or configures the file system properties.
FTYPE     Displays or modifies file types used in file extension
           associations.
GOTO       Directs the Windows command interpreter to a labeled line in
           a batch program.
GPRESULT   Displays Group Policy information for machine or user.
GRAFTABL   Enables Windows to display an extended character set in
           graphics mode.
HELP       Provides Help information for Windows commands.
ICACLS     Display, modify, backup, or restore ACLs for files and
           directories.
IF         Performs conditional processing in batch programs.
LABEL      Creates, changes, or deletes the volume label of a disk.
MD         Creates a directory.
MKDIR      Creates a directory.
MKLINK     Creates Symbolic Links and Hard Links
```

Tree command

- It is an external command, graphically displays the path of each directory and sub-directories on the specified drive.

- Type the following:

Tree

- A tree will be displayed on the screen
- This tree depends on the current directory , for example if the current directory is Desktop then the command will display the content of this directory as a tree .

```
C:\Users\Amal.M\Desktop\Second Semester\CS111D>tree
Folder PATH listing
Volume serial number is DADB-3FED
.
├── Java
│   └── lab
│       ├── lab10
│       │   ├── array
│       │   │   ├── array_t
│       │   │   │   ├── build
│       │   │   │   │   ├── classes
│       │   │   │   │   └── array_t
│       │   │   │   ├── nbproject
│       │   │   │   │   ├── private
│       │   │   │   │   └── array_t
│       │   │   │   └── test
│       │   └── lab10
│       │       ├── AssignmentQ2
│       │       │   ├── build
│       │       │   │   ├── classes
│       │       │   │   └── assignmentq2
│       │       │   ├── nbproject
│       │       │   │   ├── private
│       │       │   │   └── assignmentq2
│       │       │   └── test
│       │       ├── Exercise2Follow-up
│       │       │   ├── build
│       │       │   │   ├── classes
│       │       │   │   └── exercise2follow
│       │       │   │   └── up
│       │       │   ├── nbproject
│       │       │   │   ├── private
│       │       │   │   └── exercise2follow
│       │       │   └── up
│       │       ├── labExercise2_follow_up
│       │       │   ├── nbproject
│       │       │   │   ├── private
│       │       │   │   └── labexercise2_follow_up
│       │       │   └── test
│       │       └── LabExercise2
│       │           ├── build
│       │           │   ├── classes
│       │           │   └── labexersise2
│       │           ├── nbproject
│       │           │   ├── private
│       │           │   └── labexersise2
│       │           ├── src
│       │           │   └── labexersise2
│       │           └── test
│       ├── lab7
│       ├── lab8
│       ├── Lab9
│       └── Lab9
```

ATTRIB command

```
D:\>attrib /?
Displays or changes file attributes.

ATTRIB [+R | -R] [+A | -A] [+S | -S] [+H | -H] [+O | -O] [+I | -I] [+X | -X] [+P | -P] [+U | -U]
      [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.
O    Offline attribute.
I    Not content indexed file attribute.
X    No scrub file attribute.
V    Integrity attribute.
P    Pinned attribute.
U    Unpinned attribute.
B    SMR Blob 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
```

ATTRIB command

➤ **Attrib** allows a user to change the *attributes* of a file or files.

➤ **Syntax:**

attrib [{+r|-r}] [{+h|-h}] [[Drive:][Path] FileName]

➤ **Parameters**

- **+r** : Sets the read-only file attribute.
- **-r** : Clears the read-only file attribute.
- **+h** : Sets the hidden file attribute.
- **-h** : Clears the hidden file attribute.

➤ **Example:**

- **Attrib +R test.txt** <<< this command will set the file "test.txt" to be read only
- **Attrib test.txt** <<< this command display the attributes of "test.txt" file
- **Attrib +H test.txt** <<< this command will set the file "test.txt" to be hidden
- **Attrib -H test.txt** <<< this command will set the file "test.txt" to be visible (not hidden)

```
C:\OS>cd>test.txt
```

```
C:\OS>Attrib +R test.txt
```

SYSTEMINFO command

➤ SYSTEMINFO

Displays detailed configuration information about a computer and its operating system, including operating system configuration, security information, product ID, and hardware properties, such as RAM, disk space, and network cards.

➤ Example:

■ SYSTEMINFO

```
C:\>systeminfo

Host Name:                DELL-PC
OS Name:                  Microsoft Windows 7 Home Premium
OS Version:               6.1.7600 N/A Build 7600
OS Manufacturer:         Microsoft Corporation
OS Configuration:        Standalone Workstation
OS Build Type:             Multiprocessor Free
Registered Owner:         Dell
Registered Organization:
Product ID:               00359-OEM-8992687-00006
Original Install Date:    9/25/2011, 7:24:35 PM
System Boot Time:         2/22/2015, 5:24:54 PM
System Manufacturer:      Dell Inc.
System Model:              Vostro 1520
System Type:              X86-based PC
Processor(s):              1 Processor(s) Installed.
                           [01]: x64 Family 6 Model 23 Stepping 10 GenuineIntel
~1584 Mhz
BIOS Version:              Dell Inc. A02, 4/8/2009
Windows Directory:        C:\Windows
System Directory:          C:\Windows\system32
Boot Device:               \Device\HarddiskVolume1
System Locale:              ar-sa;Arabic (Saudi Arabia)
Input Locale:              en-us;English (United States)
Time Zone:                 (UTC+03:00) Kuwait, Riyadh
Total Physical Memory:     3,033 MB
Available Physical Memory: 820 MB
Virtual Memory: Max Size:  6,064 MB
Virtual Memory: Available: 2,981 MB
Virtual Memory: In Use:    3,083 MB
Page File Location(s):     C:\pagefile.sys
Domain:                    WORKGROUP
Logon Server:              \\DELL-PC
```


TASKLIST command

This tool displays a list of currently running processes.

► ➤ TASKLIST

► ➤ Syntax:

► tasklist [/fi *FilterName*]

► ➤ Parameters

▪ /fi *FilterName*: Specifies the types of process(es)

► to include in or exclude from the query.

► ➤ Example:

▪ **Tasklist** <<< *this command will display a list of currently running processes.*

▪ **tasklist /fi "STATUS eq not responding"** <<< *this command will display the none-responding processes*

```
C:\>tasklist /fi "STATUS EQ NOT RESPONDING"
```

Image Name	PID	Session Name	Session#	Mem Usage
jusched.exe	3624	Console	1	1,416 K
chrome.exe	9008	Console	1	70,704 K

```
C:\>_
```

TASKKILL command

allows a user to end one or more tasks or processes.

➤ TASKKILL

➤ Syntax:

`taskkill [/fi FilterName] [/im ImageName]`

➤ Parameters

- `/im ImageName` : Specifies the image name of the process to be terminated.
- `/fi FilterName` : Specifies the types of process(es)

to include in or exclude from the query.

➤ Example:

- **Taskkill /im notepad.exe** <<< *this command will end “notepad” application*
- **taskkill /fi "STATUS eq not responding"** <<< *this command will end the none-responding processes*

```
C:\>taskkill /fi "status eq not responding"
SUCCESS: Sent termination signal to the process with PID 3624.
SUCCESS: Sent termination signal to the process with PID 9008.

C:\>taskkill /im notepad.exe
SUCCESS: Sent termination signal to the process "notepad.exe" with PID 448.

C:\>
```

DEL/ERASE command

➤ **DEL/ERASE** allows a user to remove file(/s).

➤ **Syntax:**

DEL [drive:][path]filename [/P]
ERASE [drive:][path]filename [/P]

```
C:\>del test.txt /p
C:\test.txt, Delete (Y/N)? y
C:\>_
```

➤ **Parameters**

- **[drive:][path] filename** Specifies the file(s) to delete. Specify multiple files by using wildcards.
- **/P** Prompts for confirmation before deleting each file.

➤ **Example:**

- **Del test.txt** <<< this command will remove the “test.txt” file
- **Erase test.txt** <<< this command will remove the “test.txt” file
- **Del test.txt /p** <<< this command will remove the “test.txt” file with confirmation prompt

Format

١٣ الأمر FORMAT

يعمل على إزالة كافة محتويات القرص الصلب أو المرن و هذا الأمر خطير أيضا حيث يقوم بمسح كافة محتويات القرص المحدد لذلك أنتبه و أكرر لست مسئول عن براقش

الأمر	الشرح
FORMAT C	تهيئة القرص بش عادي
FORMAT C:/S	تهيئة القرص مع نسخ ملفات النظام بعد التهيئة
FORMAT C:/Q	تهيئة القرص بسرعة
FORMAT C:/Q/U	تهيئة القرص بسرعة مع عدم إمكانية استرجاع البيانات
FORMAT C:/C	تهيئة القرص مع عرض عدد المسارات المعطوبة بعد التهيئة

٥- الأمر UNDELETE

يستخدم لمحاولة استرداد بعض الملفات أو المجلدات التي تم حذفها سابقا بواسطة الأمر DEL أو DELTREE لاحظ أن هذه العملية هي محاولة لاسترجاع الملفات وليست طريقه مضمونه لاسترجاع أي ملف محذوف كنت أتمني أن أطبق هذا الأمر بالصور ولاكني لا أذكر أنني حذفت ملف معين و أفكر الآن باسترجاعه و هذه العملية قد تأخذ وقت طويل

الشرح	الأمر
يحاول استرداد الملف المسى AMAr	UNDELETE AMAr

٦- الأمر UNFORMAT

يقوم هذا الملف بمحاولة أسترجاع الفهارس و الملفات التي فقدت بواسطة الأمر FORMAT ستأخذ هذه العملية وقت طويل جدا وهذا مثال بسيط

الشرح	الأمر
يحاول استرداد الملف التي كانت في الجزء المسمى C	UNFORMAT C:

٧- الأمر DISKCOPY

يستخدم لعمل نسخه طبق الأصل من قرص مرن إلى قرص مرن آخر

الشرح	الأمر
لعمل نسخه طبق الأصل من القرص المرن ثم يطلب منك إدخال قرص آخر لنقل كاه البيانات المنسوخة إليه	DISKCOPY A:

٨- الأمر DISKCOMP

يستخدم للمقارنة بين محتوى أسطوانتين وعرض تقرير عن نتيجة المقارنة

الشرح	الأمر
مقارنه بين هاتين الأسطوانتين	DISKCOMP A: B:

commands	work	example
Diskpart	Input to disk managements	<pre>C:\>diskpart Microsoft DiskPart version 10.0.22000.653 Copyright (C) Microsoft Corporation. On computer: LAPTOP-V6NTMUJ3 DISKPART></pre>
Rmdir/s	Remove folder with contents	<pre>C:\>rmdir/s os</pre>
Rmdir/s /q	Remove folder with contents quickly <pre>/S Removes all directories and files in the specified directory in addition to the directory itself. Used to remove a directory tree. /Q Quiet mode, do not ask if ok to remove a directory tree with /S</pre>	<pre>C:\>rmdir/s/q os</pre>

XCOPY

copy one or more files or folders from one location to another location.

XCOPY source [destination] [/A /M] [/D[:date]] [/P] [/S [/E]] [/V] [/W]		/V	Verifies the size of each new file.
[/C] [/I] [/Q] [/F] [/L] [/G] [/H] [/R] [/T] [/U]		/W	Prompts you to press a key before copying.
[/K] [/N] [/O] [/X] [/Y] [/Z] [/B] [/J]		/C	Continues copying even if errors occur.
[/EXCLUDE:file1[+file2][+file3]...] [/COMPRESS]		/I	If destination does not exist and copying more than one file, assumes that destination must be a directory.
source	Specifies the file(s) to copy.	/Q	Does not display file names while copying.
destination	Specifies the location and/or name of new files.	/F	Displays full source and destination file names while copying.
/A	Copies only files with the archive attribute set, doesn't change the attribute.	/L	Displays files that would be copied.
/M	Copies only files with the archive attribute set, turns off the archive attribute.	/G	Allows the copying of encrypted files to destination that does not support encryption.
/D:m-d-y	Copies files changed on or after the specified date. If no date is given, copies only those files whose source time is newer than the destination time.	/H	Copies hidden and system files also.
/EXCLUDE:file1[+file2][+file3]...	Specifies a list of files containing strings. Each string should be in a separate line in the files. When any of the strings match any part of the absolute path of the file to be copied, that file will be excluded from being copied. For example, specifying a string like \obj\ or .obj will exclude all files underneath the directory obj or all files with the .obj extension respectively.	/R	Overwrites read-only files.
		/T	Creates directory structure, but does not copy files. Does not include empty directories or subdirectories. /T /E includes empty directories and subdirectories.
		/U	Copies only files that already exist in destination.
		/K	Copies attributes. Normal Xcopy will reset read-only attributes.
		/N	Copies using the generated short names.
		/O	Copies file ownership and ACL information.
		/X	Copies file audit settings (implies /O).
		/Y	Suppresses prompting to confirm you want to overwrite an existing destination file.
/P	Prompts you before creating each destination file.	/-Y	Causes prompting to confirm you want to overwrite an existing destination file.
/S	Copies directories and subdirectories except empty ones.	/Z	Copies networked files in restartable mode.
/E	Copies directories and subdirectories, including empty ones. Same as /S /E. May be used to modify /T.	/B	Copies the Symbolic Link itself versus the target of the link.
/V	Verifies the size of each new file.	/J	Copies using unbuffered I/O. Recommended for very large files.
		/COMPRESS	Request network compression during file transfer where applicable.

Xcopy

Copy Files to a New Folder

```
xcopy C:\Files E:\Files /i
```

Xcopy Backup Script

```
C:\>xcopy "C:\Important Files" D:\Backup /c /d /e /h /i /k /q /r /s /x /y
```

Copy all file and folder to another folder

```
C:\>xcopy/e shire os
```


Exercise 1

1. Create a directory in the Document Folder and name it "Evaluation1".
2. Create a file on the desktop using Dos commands and name it "Evaluation1" then Move it to "Evaluation1" directory.
3. Use echo command to write "Hello every one this is my first evaluation".
4. Display the content of "Evaluation1" on the command prompt.
5. Change the command prompt's color to white background and blue font color.
6. Open your file by using the command prompt