PRACTICAL-2

DOS COMMANDS

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Basics of DOS Command

- DOS commands are the **commands** available in **MS-DOS** that are used to interact with the **operating system** and other **command line** based software.
- Unlike in Windows, DOS commands are the primary way in which you use the operating system. Windows and other modern OSs use a graphics-based system designed for touch or a mouse. The **Command Prompt** in Windows provides access to over 280 **commands**.
- These commands are used to do certain **operating system** tasks from a **command line interface** instead of the graphical Windows interface we use most of the time.
- For example, Command Prompt commands let you copy data to a different folder, format an entire disk, back up your files, send messages to other computers, restart your own computer, and *much* more.

The Main Function of DOS

- DOS translate the command issued by the user in the format that is understood by the computer to execute it, also generate the error message in the human readable language.
- Manage Disk files.
- Allocate system resources according to the system requirement
- DOS provides Features essential to control hardware devices such as Keyboard, Screen, Disk, Devices, Printers, Modems and programs.

Directory structure

- Directory is just like a file folder, which contain all the logically related files.
- DOS enables the users to organize the files in a disk into directories and sub-directories.
- A directory within another directory is called a sub-directory.
- Of course, there may be sub-directories of sub-directories are present.

Directory structure

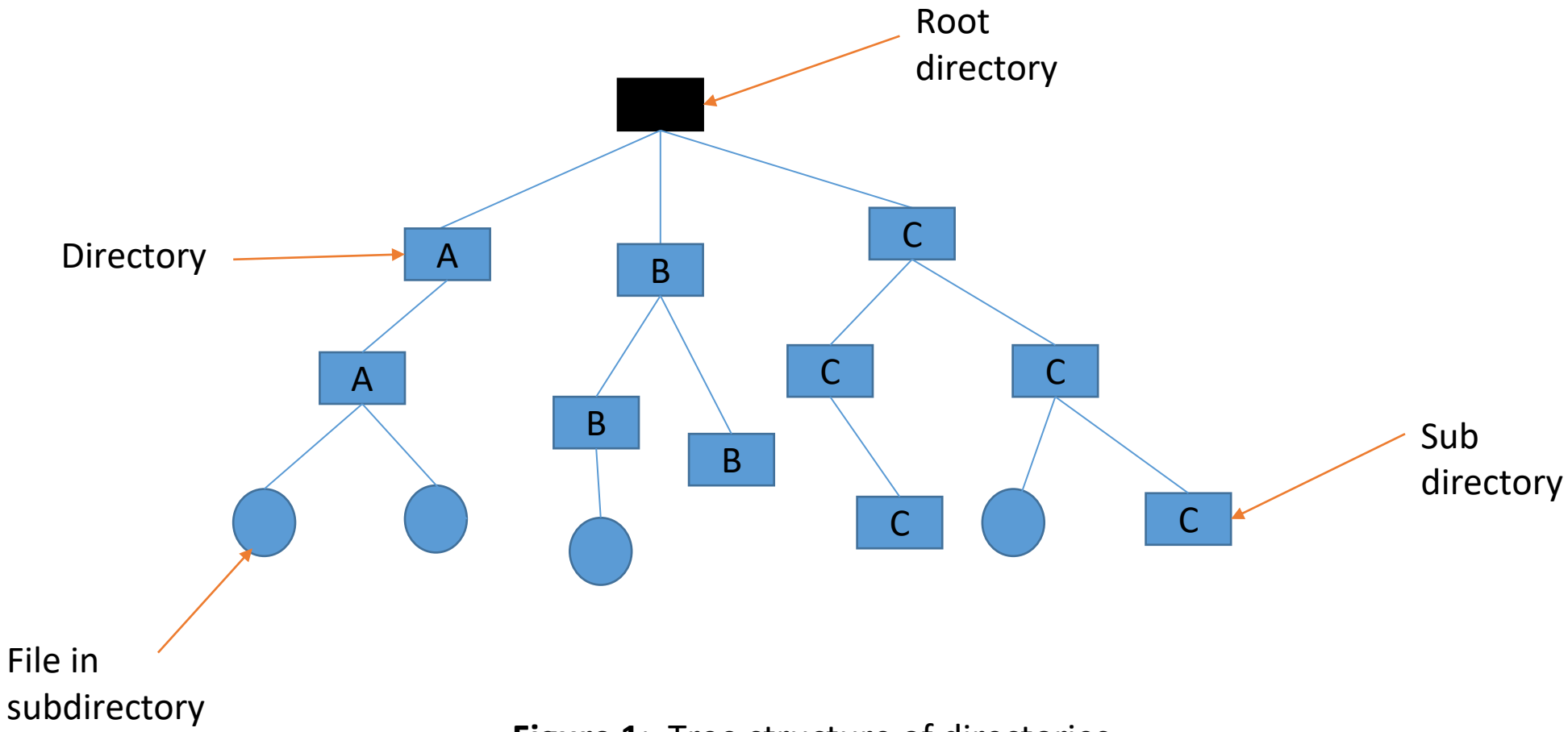

Figure 1: Tree structure of directories

Classification of DOS Commands

- DOS Commands are classified in two categories:
  - **Internal commands**: Internal commands are DOS commands embedded into cmd.exe shell. They are always available to the user and tend to focus on file and folder commands. An example of an internal command would be "CLS" to clear the screen.

Classification of DOS Commands

- DOS Commands are classified in two categories:
  - **External commands**: External commands are not located in the shell but are in program files stored on disk. They are a combination of .exe and .com files mostly found in the \windows\system32 folder. An example of an external command would be "MORE.COM" to pause the output of a command.

Internal DOS Commands

- **CLS:** The CLS command is used to clear the window & move the cmd to the top of the window.

  Syntax: cls

- **Date:** The Date command is used to display and/or sets the system date.

  Syntax: date [/t]

Internal DOS Commands

- **VER:** The VER command is used to display the DOS version number for the version of DOS currently active.

Syntax: VER

- **VOL**: The VOL command is used to display the volume label and serial number of a label.

Syntax: vol[<drive:>]

Internal DOS Commands

- **DIR:** The DIR command is used to display a list of directory's files and subdirectories. As well as it displays name extension & the size in bytes. DIR also displays the total number of files & directories listed their cumulative size, and the free space remaining on the disk.

Syntax: **dir [<Drive :>] [<path>] [</Filename>]**

Internal DOS Commands

- //To access particular file
    - [<Drive>] : specifies the drive and directory for which you want to see.
    - [<Path>]: specifies the location of file.
    - [</Filename>]: specifies a particular file or group of files for which you want to see.

Internal DOS Commands

Use of wildcard characters with DIR command:

- Asterisk (*): By using * , you can represent one or more characters of a file name and can also display a subset of files or subdirectories.

For example: **dir * .txt**

//It lists all files in the current directory with extensions that begin with .txt,

Internal DOS Commands

Use of wildcard characters with DIR command:

dir read*.txt

//Lists all files in the current directory that begin with “read” & with extensions that begin with .txt such as .txt.

dir read * . *

// Lists all files in the current directory that begin with “read” with any extension.

Internal DOS Commands

Use of wildcard characters with DIR command:

- Question mark (?): Use the question mark as a substitute for a single character in a name.
- For example: **dir read??? . txt** //Lists any files in the current directory with the .txt extension that begin with “read” & are followed by up to three characters. This includes Read.txt, Read1.txt, Read12.txt, Read123.txt, Readme1.txt, but not Readme12.txt

Internal DOS Commands

Use of wildcard characters with DIR command:

- **Note**: In the syntax of each commands, the use of [] is represent that the content written into [] is optional.

Internal DOS Commands

- **COPY CON:** It allows the Creation of a new file through the command line.

  Syntax: copy con filename

  Than write lines to insert into the file & when done.

  Press ctrl + z to save & create file

  Press ctrl + c to cancel file

- **TYPE**: Type is a built command, which displays the contents of file without modifying it.

  Syntax: type [</drive>:] [<path>] <filename>

- **/?** : This command is used to get help.

Internal DOS Commands

- **MKDIR** (Make directory): The mkdir command is used to create a directory or subdirectory in current drive.

  Syntax: md [<drive>:] <path>

  mkdir[<drive>:] <path>

- For example,

  md directory1

  md taxes\property\current //To create directory tree within root directory.

Internal DOS Commands

- **CD** (change directory) : Displays the name of or changes the current directory.

Syntax: cd [/d] [<drive>] [<path>]

cd [..]

- where,

[/d] = change current drive as well as current directory for a drive.

<drive> = specifies the drive to display or change (if different from current directory)

<path> **=** specifies the path to the directory.

< .. > **=** Specifies that you want to change to the parent folder.

Cd = Used to reach to the root directory.

Internal DOS Commands

For example,

- To change drive = **cd /d D:**
- To change directory as well as drive = **cd /d D:/users/lenovo**
- To change parent node: **cd..**
- To reach to the root folder: **cd**

- **RMDIR** (remove directory): To deletes a only directory.

Syntax: rd [<drive>:] <path> [/s[/q]]

Where,

- [<drive>:] = Specifies the location & the name of the directory that you want to delete.
- /s = Deletes a directory tree with confirmation.
- /q = Specifies quiet mode without confirmation.

Internal DOS Commands

- **Rename**(ren): Rename files or directories.

Syntax: **rename [<Drive>:] [<path>] <filename1> <filename2>**

For example,

- To change .txt extension in the current directory to .doc extension

rename *.txt *.doc

- To change directory name

rename chap10 part10

Internal DOS Commands

- **DEL** (erase): Delete one or more files and also drive.

Syntax: **del [/p] [/f] [/s] [/q] [/a [:] <attributes>] <names>**

Where,

<names> = specifies a list of one or more files or directories.

/p = prompt for confirm before delete.

/f = Force deletion of read-only files.

Internal DOS Commands

- **DEL** (erase): Delete one or more files and also drive.

Syntax: **del [/p] [/f] [/s] [/q] [/a [:] <attributes>] <names>**

Where,

/s = Deletes specified files from the current & subdirectories. Displays the names of the files as they are being deleted.

/q = quite mode.

Internal DOS Commands

/a[:]<attributes> = attributes r = Read-only files

h = Hidden files

i = not content identify

s = system files

For example,

- **del \work** Delete files from specific folders
- **del * . *** Delete all of the files in the current directory
- **del C:\test* .*** Delete all files from test folder
- **del *.bat** Delete all files with the .bat extension from the current directory
- **del /a:r *.*** Deletes all read only files form current directory

Internal DOS Commands

- **MOVE :** Used to move one or more files from one directory to another directory.

Syntax: **move [{/y | /-y}] [<sources>] [<target>]**

- Where,

/y = Supresses prompting to confirm that you want to overwrite an existing file.

/-y = causes prompting

<sources> = path or name of file from current directory

<target> = path or name to move file.

- For example,

move \data*.xls \second_q\reports

Internal DOS Commands

- **COPY** : Copy one or more files from one location to another.

Syntax: **copy source_file_name dest_file_name**

- For example,

copy memo.doc letters.doc

copy robin.py c:\ birds //To copy a file from the current directory to existing directory of other drive c.

copy mar89.txt + apr89.txt+may89.txt report

// To combine files. In the case of destination is not mentioned, all combined files are stored in first file.

Internal DOS Commands

- **PROMPT :** It changes the cmd.exe command prompt. Prompt resets the command prompt to the default settings, which is the current drive letter & directory followed by the greater than symbol (>).

  To remove current prompt:

  Syntax: prompt new_name

  To change from new to actual name:

  Syntax: prompt $p $g

  For example,

  prompt $d $s $s $t - $g

  prompt - - $g

  prompt $p $g

Internal DOS Commands

- **DOSKEY**: Display all commands that are stored in memory.
  Syntax: doskey/history > tmp.txt //To create txt programmed named tmp.txt file that contains recently used commands.

- **PATH**: Set the command path.
  Synatx: path [<drive>:] <path> [; path]
  Where,
  - [<drive>:] = specifies the drive and directory to set in the command path
  - ; = Separates the directories
  - Path = append the command path to the existing set of directories.

  For example,
  Path C:\ user \ taxes ; b:\ user \ invert

External DOS Commands

- **ATTRIB :** Displays / sets or removes attributes assigned to files or directories.

List of attributes:

- r : Read-only
- a : Archive file
- s : System file
- h : Hidden file
- i : Not – content indexed
- /s : Applies attrib for directory as well as subdirectories
- /d : Only applies for directory.

External DOS Commands

- **ATTRIB :**

  Syntax: **attrib + [option] file_name** //To set attribute

- For example,

  To assign read-only attribute to report.txt file.

attrib +r report.txt

To remove the Read-only attribute from files in the public directory & its subdirectories on a disk in drive B.

attrib -r b: \ public\ *.* /s

External DOS Commands

- **FORMAT:** Format disk to accept window files. It creates a new root directories & file system for the disk. Nevertheless, you must be a member of the administer group to format the disk, because it requires authority.

  Syntax: **format a:** //To format a new floppy disk in drive A.

  format a: /q //To perform quick format operation on a previously formatted disk in drive A.

  format a: /v :data //To format disk and assign it the volume label “data”.

- **Exit codes of format:**

  0 : The format operation was successful

  1: Incorrect parameters were supplied

  4: A fatal error occurred (which is any error other than 0, 1, or 5)

  5: The user pressed N in response to the prompt “proceed with format (Y / N) ?” to stop the process.

External DOS Commands

- **TREE:** Displays the directory structure of a path or of the disk in a drive graphically.

Syntax: tree [<drive>:] [<path>] [/f] [/a]

Where,

- <drive> = Specifies the drive that contains the disk for which you want to display the directory structure.
- <path> = specifies the directory for which you want to display.
- /f = Displays the names of the files in each directory.
- /a = Specifies that tree is to use text characters instead of graphic characters to show the lines that link subdirectories.

External DOS Commands

- **TREE:** Displays the directory structure of a path or of the disk in a drive graphically.

  Syntax: tree [<drive>:] [<path>] [/f] [/a]

- For example,

  To display the names of all the subdirectories on the disk in your current drive

  **tree **

  To display , one screen at a time, the files in all the directories on drive C.

  tree c: \ /f | more

External DOS Commands

- **XCOPY :** Copies all files & directories, including subdirectories.
  Syntax: xcopy <source> [<destination>]
- **For example,**

To copy all files & subdirectories from drive A to drive B.

xcopy a: b: /s /e

To update files in the \reports directory with the files in the \rawdata directory that have changed since Dec 29,1993.

xcopy \rawdata\reports /d:12-29-1993

External DOS Commands

- **XCOPY :** Copies all files & directories, including subdirectories.
  Syntax: xcopy <source> [<destination>]
- **For example,**

To update all files that exist in \reports in previous example, regardless of date, type:

xcopy \rawdata\reports \u

To obtain list of all files to be copied by previous command:

xcopy \ rawdata\reports /d:12-29-1993 /l > xcopy.out

External DOS Commands

Exit codes of XCOPY:

0 : Files were copied without error
1: No files were found to copy
2: The user pressed CTRL + C terminate xcopy.
4: Initialization error occurred. There is not enough memory or disk space.
5: Disk write error occurred.