

# Operating systems

## Lab 1: Introduction to operating System 'Windows'





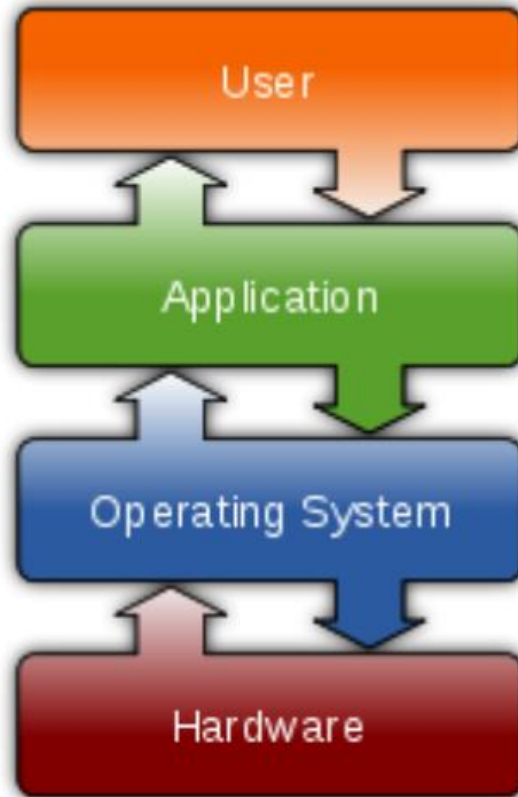
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# Introduction





# Introduction (cont.)

## Operation System

- Is an interface between user & hardware which is responsible for the management of activities and the sharing of the resources of the computer
- A program which is responsible for controlling the execution of other programs and allocate devices between them
- Performs three types of functions
  - o Manages computer resources
  - o Provides user interface
  - o Runs applications





## Introduction(cont.)

- Hundreds of operating systems
- Three basic categories
  - Embedded – hand-held, PDAs, Windows CE
  - Network OS – linked computers
  - Stand-alone OS – desktop
- OS often called **software environment** or **platform**
- Operating systems commonly used by individuals
  - **Windows** – most widely used
  - **Mac OS** – powerful and easy to use
  - **UNIX** – network; originally designed for Web
  - **LINUX** – non proprietary; free from the Web





# Major Windows Versions

## 1. Windows 1.0 (1985)

The first version of Windows, introduced as a graphical user interface for MS-DOS.

## 2. Windows 3.0 (1990)

A significant improvement over its predecessors, it introduced a more user-friendly interface and better multitasking capabilities.

## 3. Windows 95 (1995)

Marked a major milestone with a new user interface, the Start menu, and plug and play hardware support.

## 4. Windows 98 (1998)

Built on Windows 95, it included improved hardware support and Internet integration.

## 5. Windows 2000 (2000)

Aimed at businesses, it offered enhanced stability and support for advanced networking.

## 6. Windows ME (Millennium Edition) (2000)

Focused on home users, it included features for multimedia and Internet use but was criticized for stability issues.





# Major Windows Versions

## 7. Windows XP (2001)

A highly popular version known for its stability and user-friendly interface, it combined features from both consumer and professional versions.

## 8. Windows Vista (2007)

Introduced a new graphical user interface and improved security features, but faced criticism for performance issues.

## 9. Windows 7 (2009)

Built on the foundation of Vista, it was well-received for its performance improvements and user interface enhancements.

## 10. Windows 8 (2012)

Introduced a new tile-based interface optimized for touch screens, which received mixed reviews.





# Major Windows Versions

## 11. Windows 8.1 (2013)

An update to Windows 8 that addressed some user concerns and reintroduced the Start button.

## 12. Windows 10 (2015)

Combined features from previous versions and introduced a more unified experience across devices. It also marked the return of the Start menu.

## 13. Windows 11 (2021)

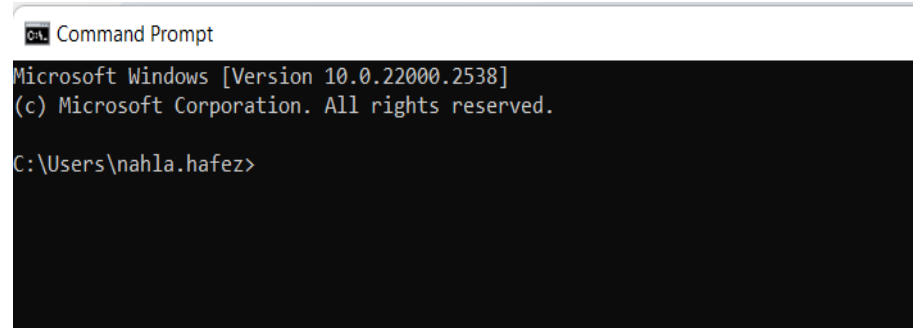
The latest version, featuring a redesigned interface, improved performance, and new features aimed at enhancing productivity.





# CLI vs. GUI

- **CLI (Command Line Interface):** is a text-based user interface that allows users to interact with a computer's operating system or software by typing commands into a console or terminal. Unlike graphical user interfaces (GUIs), which use visual elements like windows and buttons, CLIs require users to input specific commands and parameters to perform tasks, such as file management, system configuration, and program execution.
- **GUI (Graphical User Interface)** is a type of user interface that allows users to interact with software or hardware through graphical elements such as icons, buttons, windows, and menus, rather than text-based commands. It provides a visual way to control computers and devices, making it easier for users to perform tasks without needing to know complex commands or programming.



# Directory Commands



# 1. DIR - List Directory Contents

**DIR** : displays a list of files and subdirectories in a directory.

- Syntax: `dir [directory]`
- Example:
  - `dir` – Lists the contents of the current directory.
  - `dir C:\Users` – Lists the contents of the C:\Users directory.

Note: in each command you can use (command /?) for help to get all information about attributes that are used in this command.

- Example:
  - `dir /s C:\Users` – Lists all files and directories within C:\Users and its subdirectories.



## 2.CD – Change Directory

**CD:** changes the current directory to another directory.

- Syntax: `cd [directory]`
- Examples:
  - `cd C:\Windows\System32` – Changes the current directory to `C:\Windows\System32`.
  - `cd ..` – Moves up one directory level (to the parent directory).
  - `cd \` – Moves to the root directory of the current drive.



## 3.mkdir – Make a New Directory

**Mkdir** :This command creates a new directory.

- Syntax: mkdir [directory\_name]
- Example:
  - mkdir C:\NewFolder – Creates a directory named NewFolder in the C:\ drive.



## 4. . rmdir – Remove Directory

**Rmdir** : removes (deletes) a directory. It can delete both empty and non-empty directories with additional options.

- Syntax: `rmdir [directory]`
- Examples:
  - `rmdir Testfolder .`
  - `rmdir /s C:\TestFolder` – Deletes TestFolder and all its contents (subdirectories and files).
- Options:
  - `/s` – Removes all directories and files in the specified directory ,it will remove the entire directory.
  - `/q` – Quiet mode, suppresses confirmation prompts when deleting directories.



## 5. ren – Rename the directory

Ren : This command renames a file or directory.

- Syntax: `ren oldName newname`
- Example: `ren C:\OldFolder NewFolder`



## 6. tree – Display Directory Structure

Tree: displays the directory structure in a tree-like format.

- Syntax: `tree [directory]`
- Example:
  - `tree C:\` – Displays the entire directory structure of the C:\ drive.





# Creating subdirectories :

Create two directories named PLANTS and ANIMALS (using the mkdir command)  
Change directories to PLANTS, and create the directories HERBS, TREES, and VEGETABLES. Continue until you have created the following directory tree structure as the following commands :

```
Microsoft Windows [Version 10.0.22000.2538]
(c) Microsoft Corporation. All rights reserved.

C:\Users\nahla.hafez>cd Desktop

C:\Users\nahla.hafez\Desktop>mkdir "your directory"

C:\Users\nahla.hafez\Desktop>cd "your directory"

C:\Users\nahla.hafez\Desktop\your directory>mkdir plants animals

C:\Users\nahla.hafez\Desktop\your directory>cd plants

C:\Users\nahla.hafez\Desktop\your directory\plants>mkdir herbs trees vegas

C:\Users\nahla.hafez\Desktop\your directory\plants>cd trees

C:\Users\nahla.hafez\Desktop\your directory\plants\trees>mkdir oak pecan

C:\Users\nahla.hafez\Desktop\your directory\plants\trees>cd ..

C:\Users\nahla.hafez\Desktop\your directory\plants>cd vegas

C:\Users\nahla.hafez\Desktop\your directory\plants\vegas>mkdir tomatos

C:\Users\nahla.hafez\Desktop\your directory\plants\vegas>cd ..

C:\Users\nahla.hafez\Desktop\your directory\plants>cd ..

C:\Users\nahla.hafez\Desktop\your directory>cd animals

C:\Users\nahla.hafez\Desktop\your directory\animals>mkdir reptiles mammals

C:\Users\nahla.hafez\Desktop\your directory\animals>cd reptiles

C:\Users\nahla.hafez\Desktop\your directory\animals\reptiles>turtles snakes
'turtles' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\nahla.hafez\Desktop\your directory\animals\reptiles>mkdir turtles snakes

C:\Users\nahla.hafez\Desktop\your directory\animals\reptiles>cd ..

C:\Users\nahla.hafez\Desktop\your directory\animals>cd mammals

C:\Users\nahla.hafez\Desktop\your directory\animals\mammals>mkdir cats dogs

C:\Users\nahla.hafez\Desktop\your directory\animals\mammals>tree
Folder PATH listing
```

```
Microsoft Windows [Version 10.0.22000.2538]
(c) Microsoft Corporation. All rights reserved.

C:\Users\nahla.hafez\Desktop\your directory>tree
Folder PATH listing
Volume serial number is 7025-E9BA
C:.
├── cats
└── dogs

C:\Users\nahla.hafez\Desktop\your directory\animals\mammals>cd ..

C:\Users\nahla.hafez\Desktop\your directory\animals>cd ..

C:\Users\nahla.hafez\Desktop\your directory>tree
Folder PATH listing
Volume serial number is 7025-E9BA
C:.
├── animals
│   ├── mammals
│   │   ├── cats
│   │   └── dogs
│   └── reptiles
│       ├── snakes
│       └── turtles
├── plants
│   ├── herbs
│   ├── trees
│   │   ├── oak
│   │   └── pecan
│   └── vegas
│       └── tomatos
└── your directory

C:\Users\nahla.hafez\Desktop\your directory>rmdir tree
The system cannot find the file specified.

C:\Users\nahla.hafez\Desktop\your directory>mkdir turtles snakes
```

