Computer Literacy
CSC 1100

Lecture 2

Using Computers and File Management (With Windows OS)

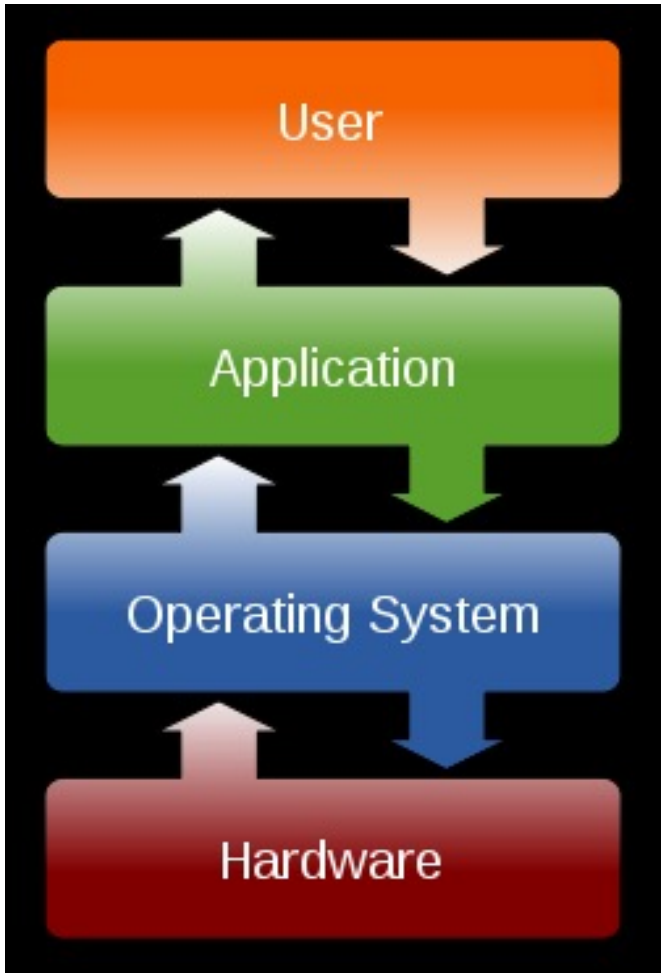
Outline

- Operating System
- Starting and Manipulating Microsoft Windows
- Working with the mouse
- Closing Windows and shutting down the Computer.
- Working with Menus
- Working with Disks
- Starting and closing a Program
- Start menus and taskbar
- Opening Multiple Programs
- Creating documents
- Creating Folders
- Moving and Copying Documents and Folders
- Renaming Documents and Folders
- Deleting Documents and Folders
- Understanding the Explorer
- Using a printer

Operating System

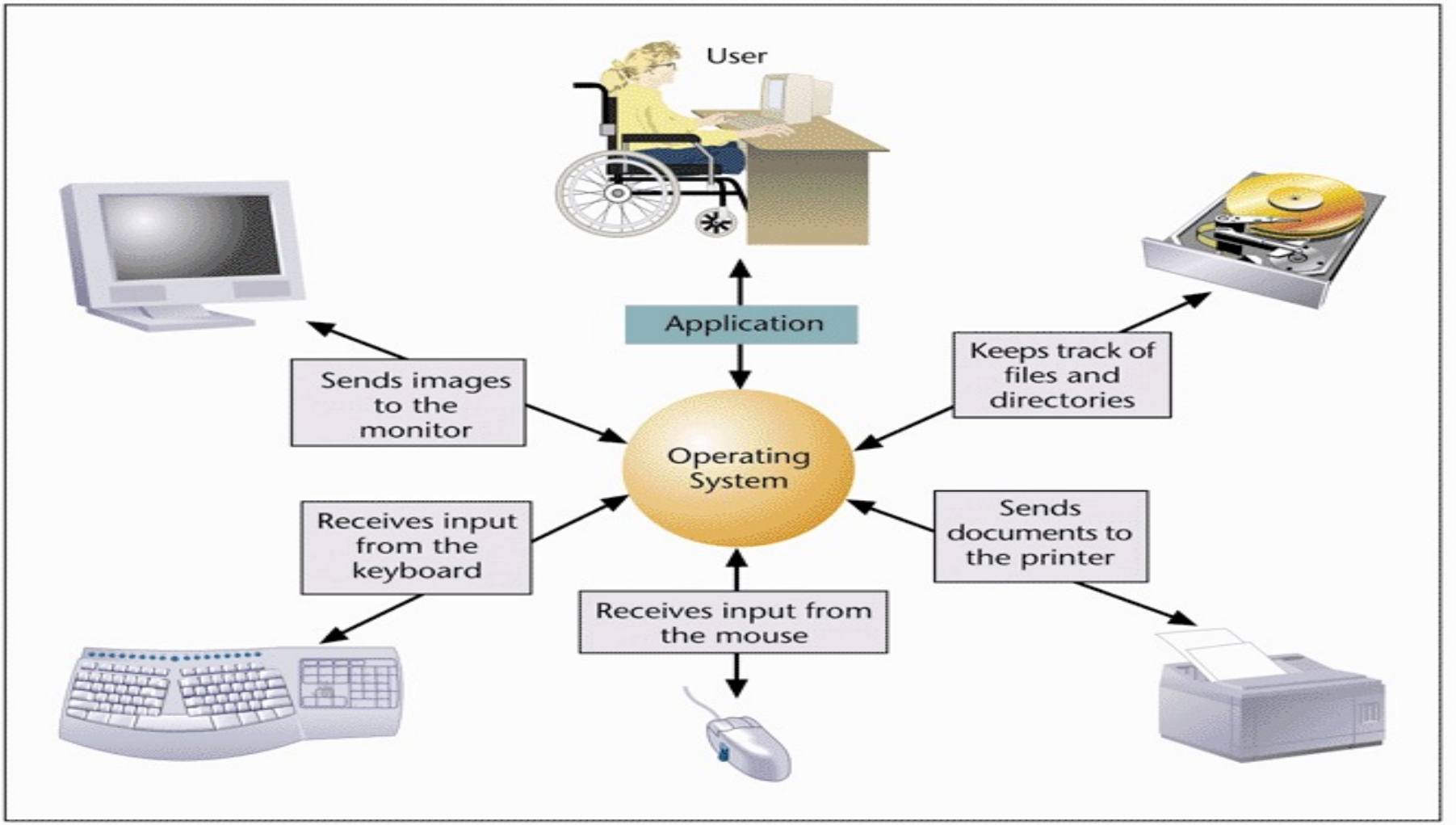
- It is a program/(system) software that **controls** the system's hardware and interacts with the user and application software.

- The operating system acts as an **intermediary** between **application programs** and the **computer hardware.**



Operating Systems (O/S)

The operating system mediates between applications and the computer and controls peripheral devices.



Functions of an operating system

- It Provides a user interface. In other words displays the on-screen elements with which you interact.
- Loads programs into the computer's memory so that you can use them.
- Coordinates how programs work with the computer's hardware and other software.
- Manages the way information is stored on and retrieved from disks.
- Manages resource sharing.

Types of an operating system

Operating systems can be categorized according to availability, number of users, type of interface design and manufacturer:

According to availability

- Real-time operating systems
- Non-real-time operating Systems

According to number of users

- Single-User/Single-Tasking Operating Systems
- Single-User/Multi-Tasking Operating Systems
- Multi-User/Multitasking Operating Systems

Types of an operating system

According to interface design

- - Command line interface
- - Graphical user interface

According to manufacturer

- - Microsoft Windows operating systems
- - Linux
- - Mac OS etc

Types of an operating system

Single-User/Single-Tasking Operating Systems:

- Allows a single user to perform just one task at a time
- Take up little space on disk
- Run on inexpensive computers
- Examples include; MS-DOS and Palm OS for palm handheld computers.

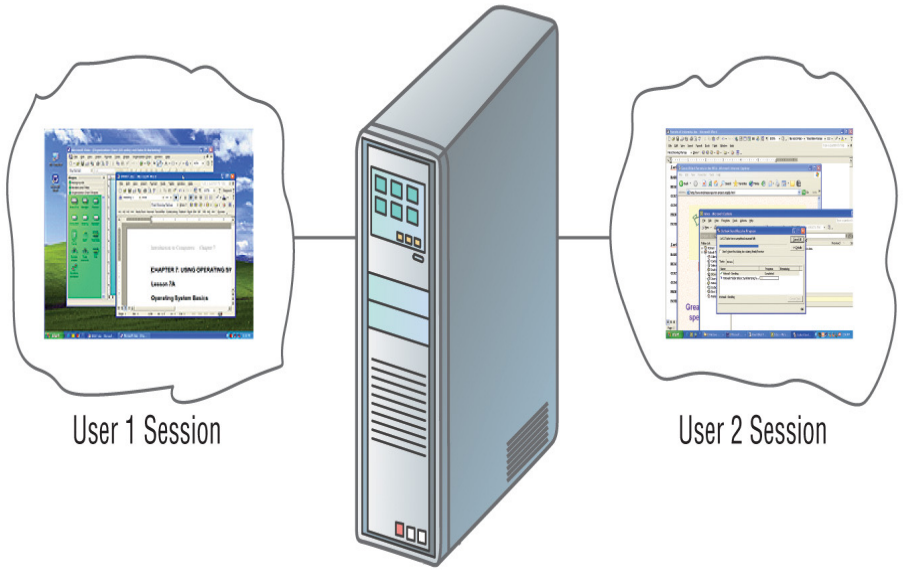
Single-User/Multi-Tasking Operating Systems:

- Allows a single user to perform two or more functions at once.
- Commonly used on personal computers.
- Examples include; Microsoft Windows and MAC OS.

Types of Operating Systems

4) **Multi-User/Multitasking Operating Systems:**

- Allows multiple users to use programs that are simultaneously running on a single network server.
- Here, each user is given a user session on the server.
- UNIX, Linux are examples.
- Maintenance can be easy.
- Requires a powerful computer.



Types of an operating system

Real-Time operating Systems (RTOS):

- Very first, relatively small OS.

- Also referred to as embedded OSs

- Built into a circuitry of a device, not loaded from a disk drive

- RTOS is needed to run real-time applications.

- A real time application is an application that responds to certain inputs extremely quickly.

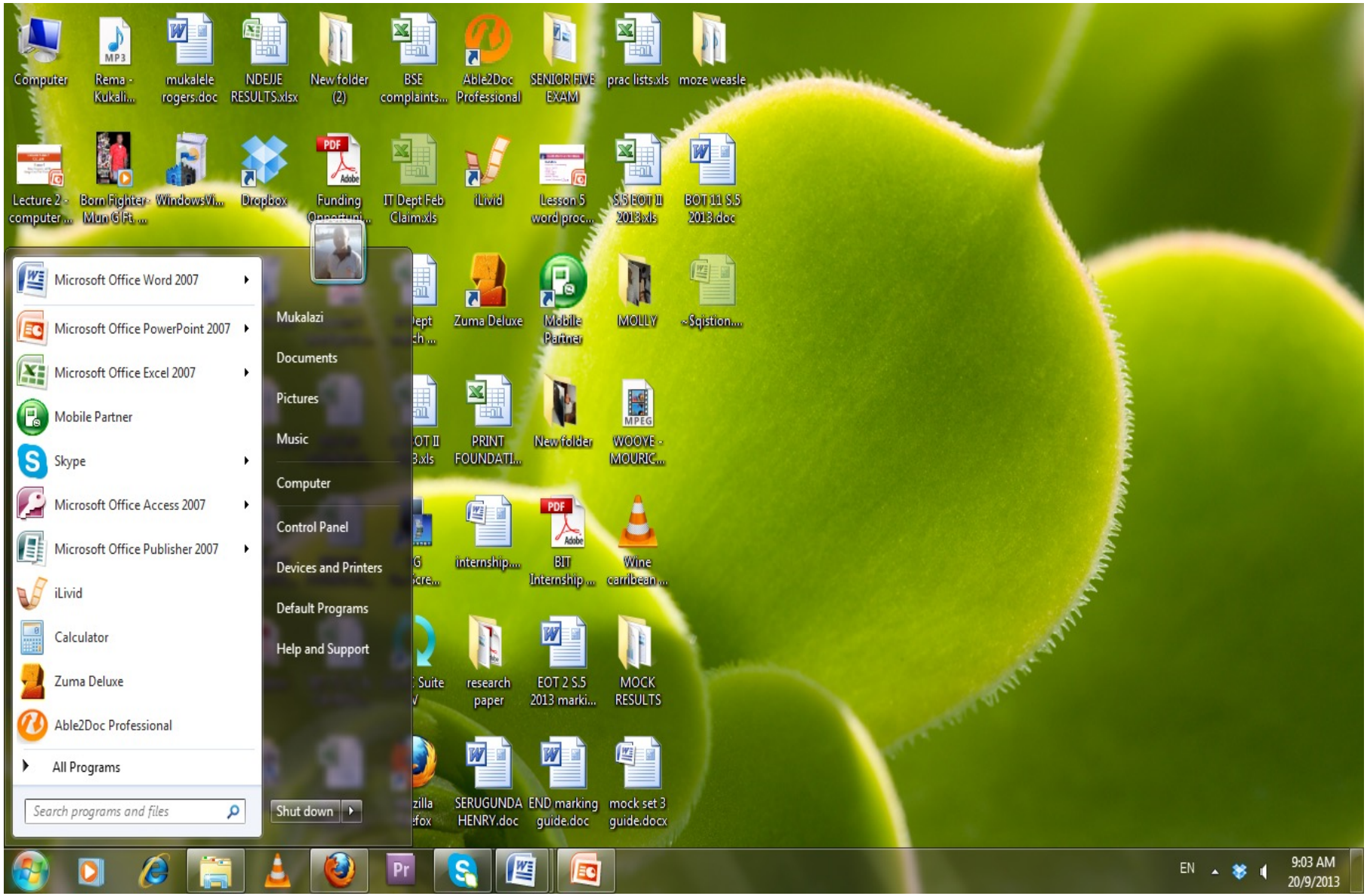
- As the name suggests, there is a deadline associated with tasks and a RTOS adheres to this deadline **as missing a deadline can cause affects ranging from undesired to catastrophic.**

Types of an operating system

The two most common types of user interfaces are graphical and command line.

1) **Graphical user Interfaces (GUI):**
   - Most common interface used in versions of;
     - Windows, MAC OS, in some versions of LINUX and UNIX.
   - Uses a mouse to work with graphical objects such as windows, menus, icons, buttons and other tools.
   - Can use Shortcuts to open programs or documents.
   - It enables task switching.
   - **Advantage:** It frees a computer user from memorizing and typing text commands.

Graphical User Interface



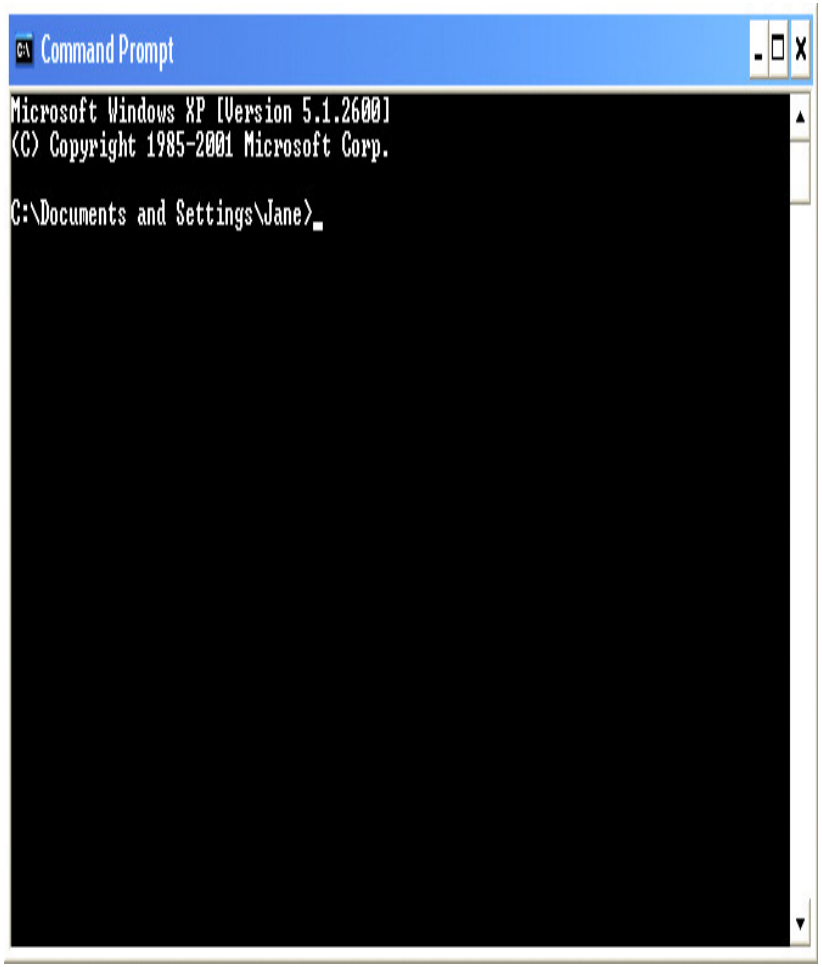
The User Interface - GUI Tools

- **Icons** are pictures that represent computer resources, such as printers, documents, and programs.
- You double-click an icon to choose (activate) it, for instance, to launch a program.
- The Windows operating system offers two unique tools, called the **taskbar** and **Start button** which help you run and manage programs.
- A **menu** groups related commands. For example, the File menu's commands let you open, save, and print document files.
- In programs designed for the same GUI, menus and commands are similar from one program to another**.**

Types of user Interfaces

2) **Command Line Interface**

- Older interface used in MS-DOS, Linux, UNIX
- User types commands at a prompt to execute tasks.
- User must remember all commands.
- Windows also has an optional command prompt that can be used by administrators to run non-GUI programs for managing and troubleshooting windows.



Personal Computers Operating Systems

DOS(Disk Operating System)

- It supports one user and one program at a time. In other words it is s a Single user, single-task OS
- Uses a Command line interface
- Supports only 16-bit programs yet most modern programs are either 32-bit or 64-bit.
- Oldest operating system.
- Advantages of using DOS:
  - It doesn't require much memory or storage space
  - Doesn’t require a powerful computer.

Personal Computers Operating Systems

- **Microsoft Windows:**
  - Microsoft created the **Windows** operating system in the mid-1980s.
  - Earlier windows versions include windows 3.0, 3.1, windows 95, 98, 2000, windows NT and many more.
  - Most popular versions are **Windows 7** (released in 2009), **Windows Vista** (2007), and **Windows XP** (2001).
  - It comes **preloaded** on most new PCs, which helps to make it the **most popular operating system** in the world
  - Mostly Graphical user Interface.
  - Latest windows versions have additional features such as; **Digital Media support**, **Advanced Networking and Communications**, **Advanced Mobile Computing** .

Personal Computers Operating Systems

- **Macintosh Operating System(Mac OS):**
  - Used on Apple machines.
  - It comes preloaded on all new Macintosh computers, or Macs.
  - All of the recent versions are known as **Mac OS X** (pronounced Mac O-S Ten), and their specific version names are **Lion** (released in 2011), **Snow Leopard** (2009) and **Leopard** (2007).
  - Apple also offers a version called **Mac OS X Server**, which is designed to be run on servers.
  - Apple computers tend to be more expensive this is why Mac OS X users are very few compared to Windows users (which are over **90%**).

Personal Computers Operating Systems

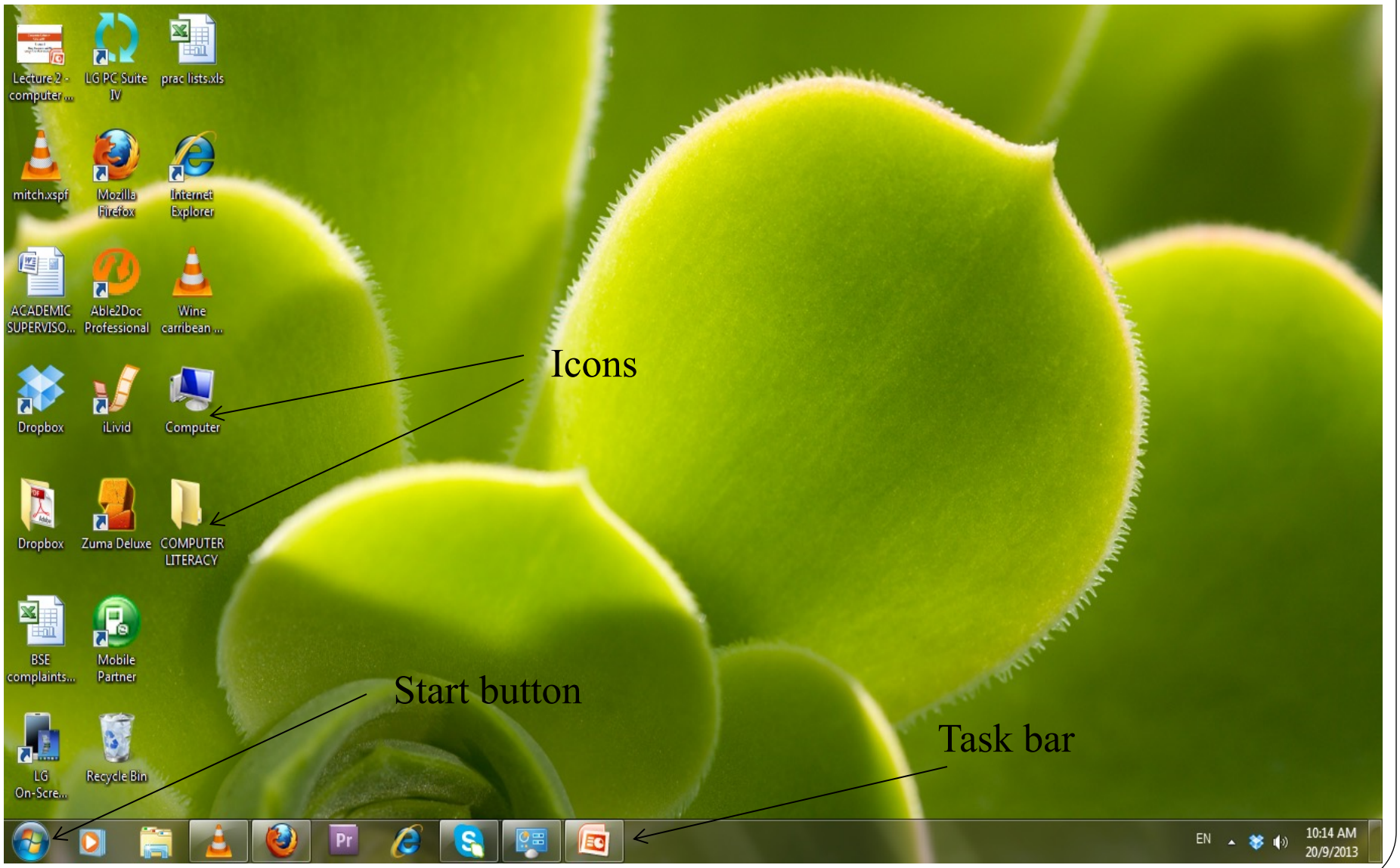
- **Linux**
  - It is a 32-bit/64-bit OS that supports multiple users and multiple processes at the same time.
  - It is a free or inexpensive version of UNIX.
  - It is very stable, fast and secure.
  - Mostly uses a command line interface but also has a GUI environment.
  - It is Open Source which means that it can be modified and distributed by anyone around the world.
  - The most popular Linux distributions include **Ubuntu**, **Mint**, and **Fedora**.

Windows Operating System Basics

Using a computer

- **Starting your computer**
  - Check that it is plugged into the electricity socket, press the button to power it.
  - Some computers have a single button for both a computer and the screen others have two.
- **Powering up or booting**
  - Is a technical term for starting up a computer and display windows desktop screen.
- **A Cursor**
  - Is a symbol usually an arrow that you move around the computer screen by moving the mouse across your desktop.

Appearance of a Windows desktop



Common terms

- **Clicking**
  - Briefly holding down the left or the right mouse button.
  - By clicking on an item around a computer screen means you have selected it.
  - Left , right and double clicking give different functionalities.
- **Menu**
  - A list of items displayed on a computer screen.
- **Taskbar**
  - A horizontal bar across the bottom of the windows desktop that displays a start button plus the name of any open application.

Common terms

- **Multi-tasking**
  - Ability of windows to have several applications and files open at the same time.
- **Buttons**

Common terms

- **Command button**
  - A button that performs or cancels an action e.g. OK and Cancel buttons.
- **Dragging with the mouse**
  - Moving a selected item on the desktop by clicking on it with the left mouse button, and holding the button as you move the item.
- **Dialog box**
  - A rectangular box that windows displays when it needs further information before it can carry out a command or when it needs to provide you with more information.

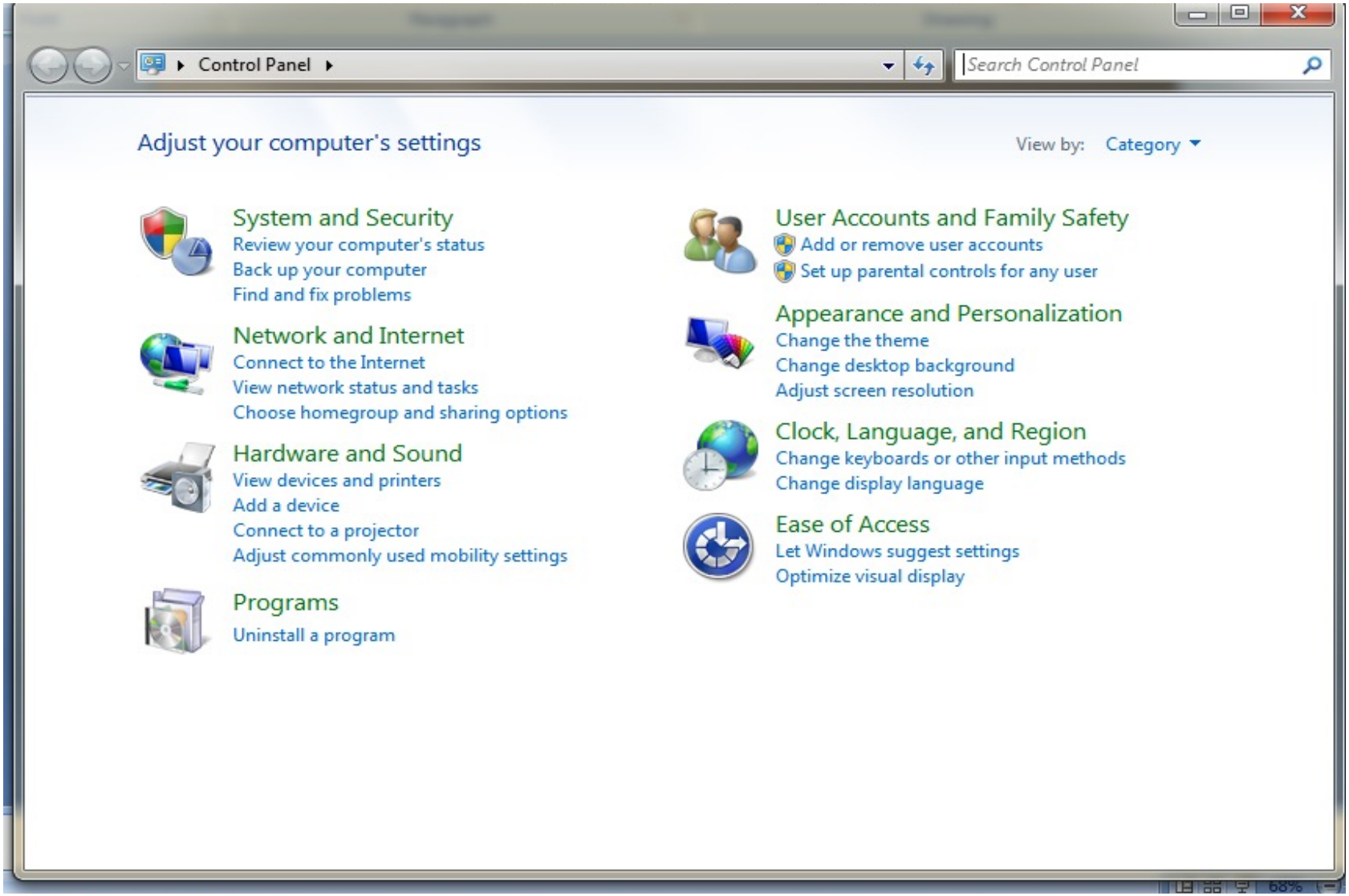
Common terms

- **Drop-down list box**
  - Is a list of options that you can select from.
- **Option buttons**
  - A group of round buttons indicating alternative choices.
- **Check boxes**
  - A set of square boxes that you can select or clear to turn options on or off .

Working with the Control Panel

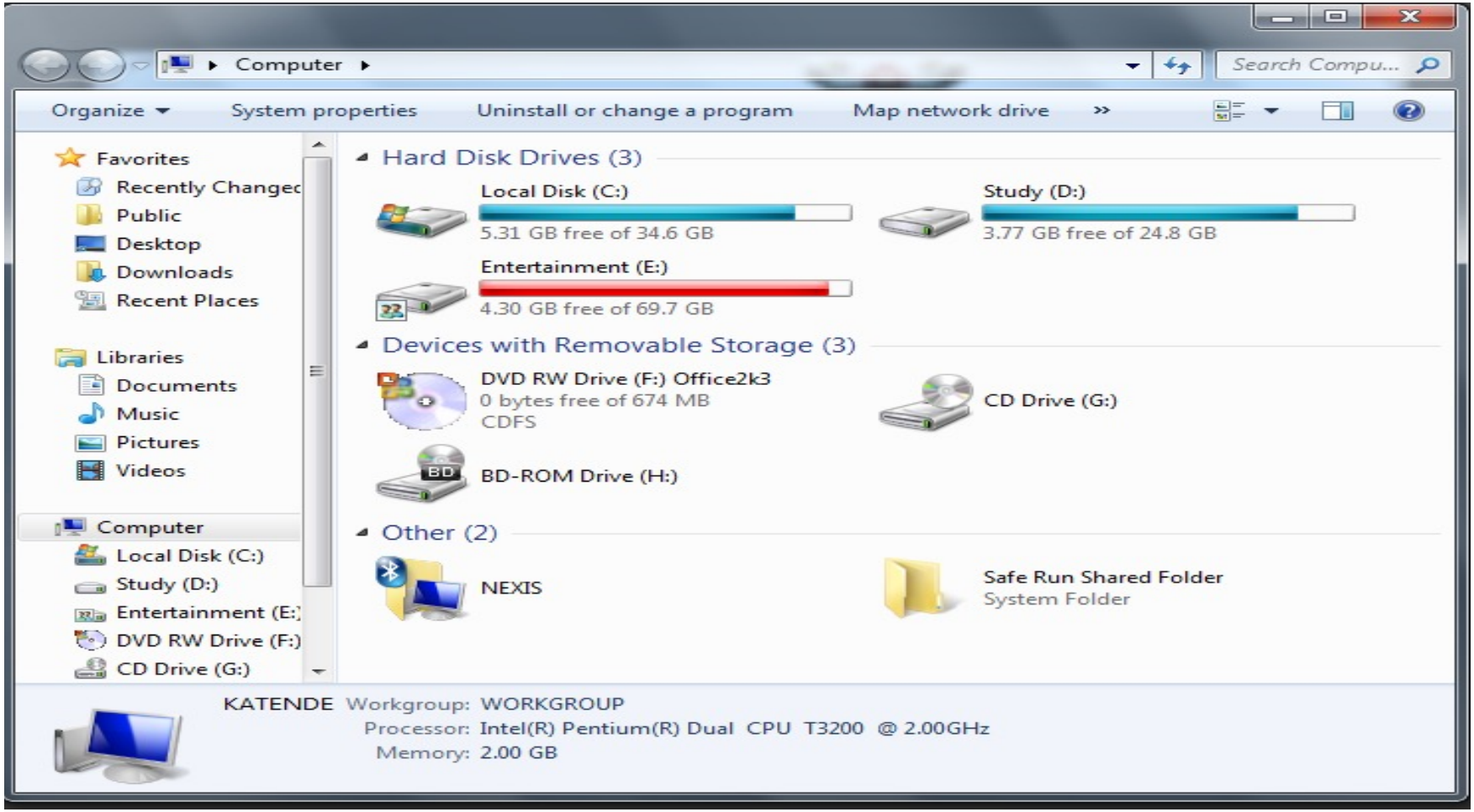
- The **Control Panel** is a part of the Microsoft Windows GUI which allows users to **view** and **manipulate** basic system settings such as adding hardware, adding and removing software, controlling user accounts, and changing accessibility options.
- The control panel helps the computer user to change settings and customize the functionality of your computer.
- To access the control panel: Click on the Start button- then click on Control panel in the menu items provided.

Working with the Control Panel

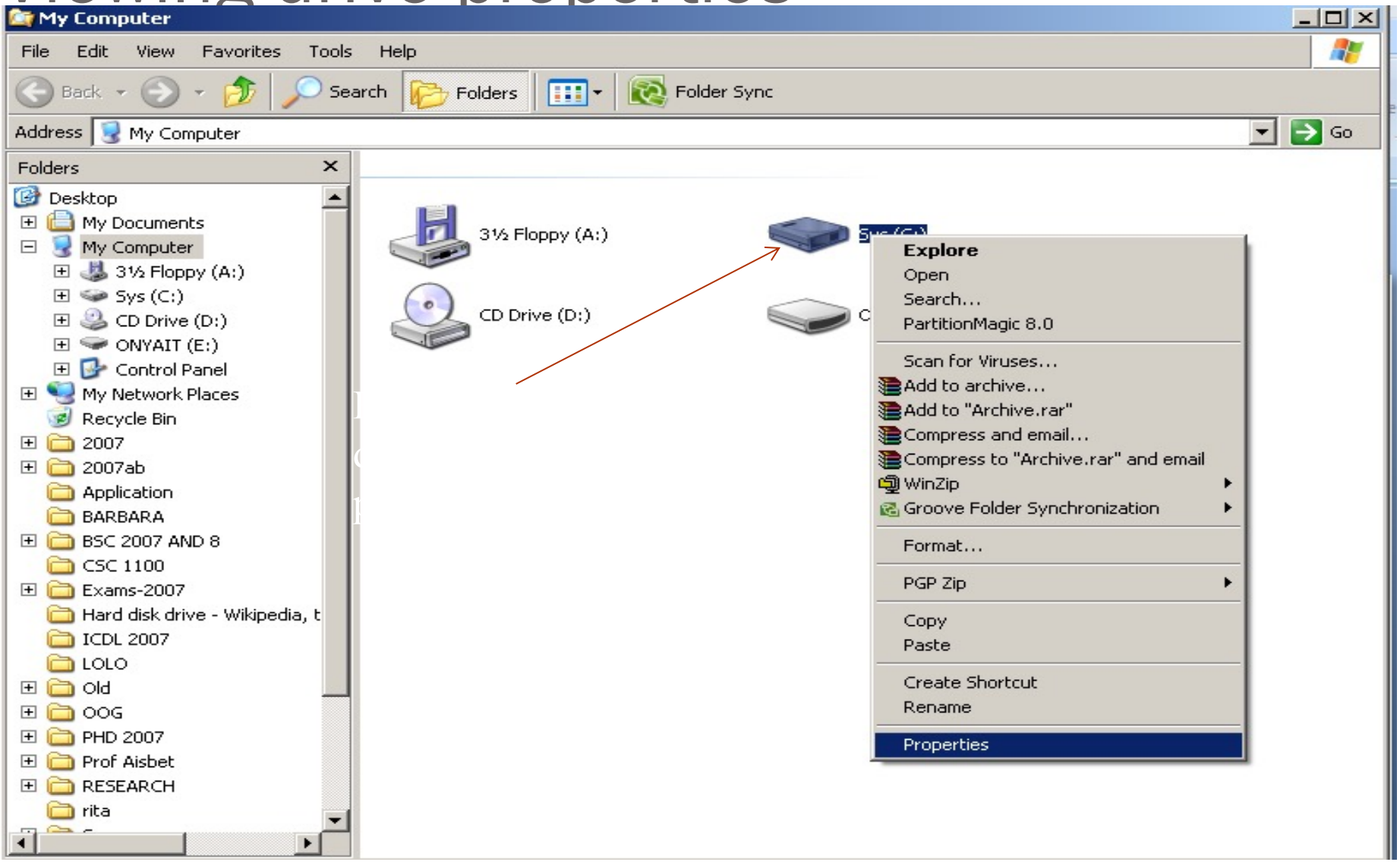


Exploring your computer

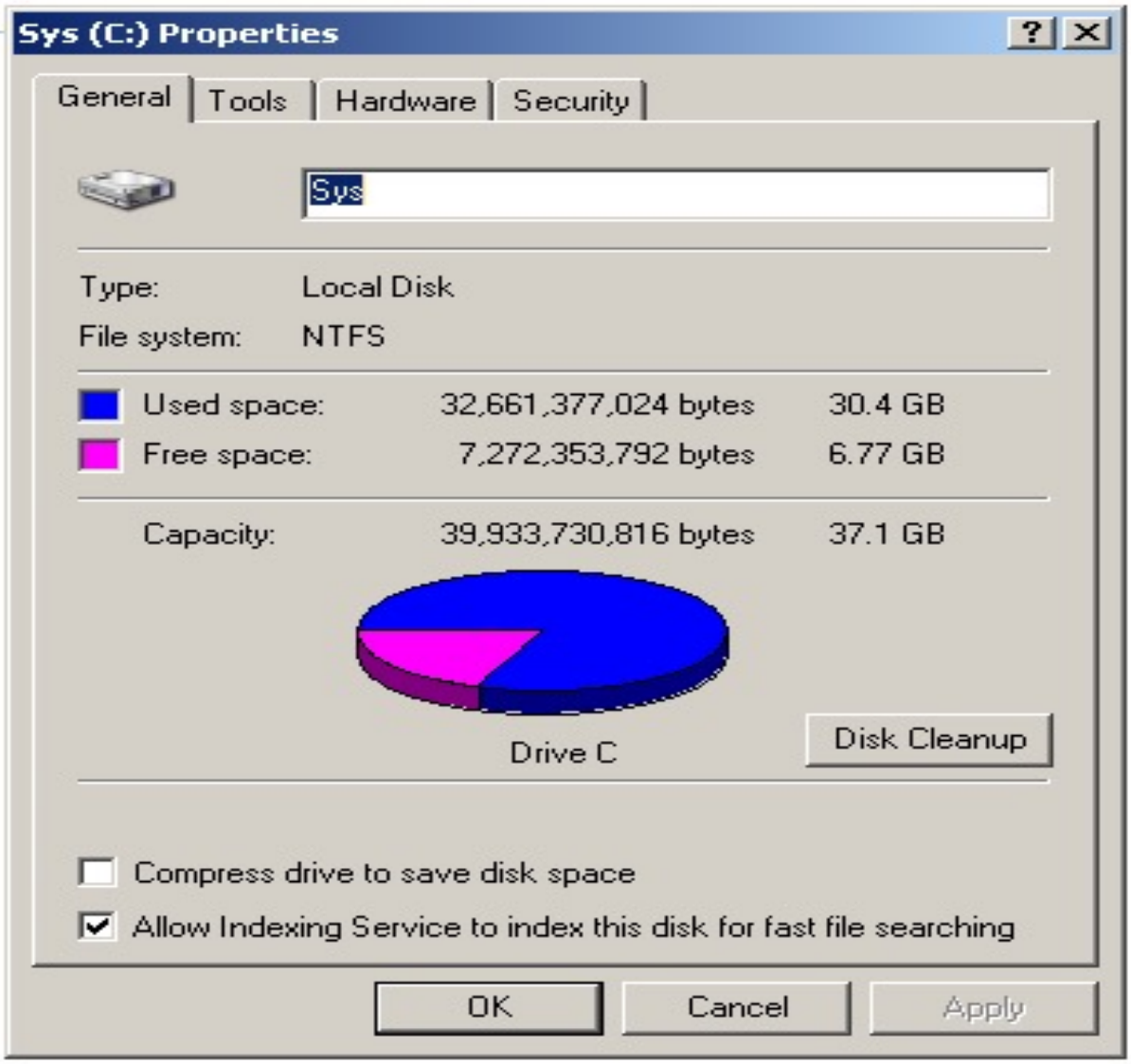
- Computer drive
  - Is a physical storage device for holding files and folders in a



Viewing drive properties



Drive properties



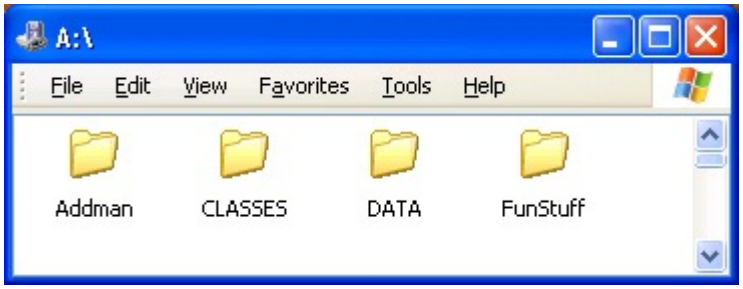
File Naming Conventions

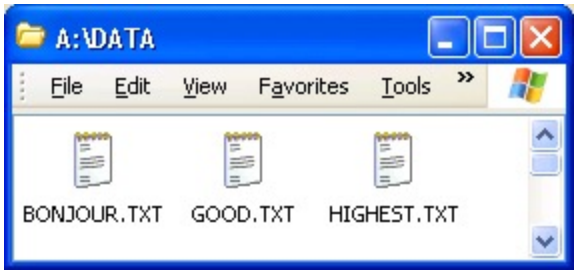
- A **computer file** is a named collection of data that exists on a storage medium such as a hard disk, a floppy disk, or a CD.
- Is a computers' basic unit of information in a storage.
- When you create a file, you must provide it with a valid **filename** that adheres to specific rules, referred to as **file naming conventions**.
- Special characters like / \ : ? < > * are not allowed in Windows filenames.
- Reserved words like Aux, Com1, and Lpt1 are used as commands or special identifiers in Windows. You cannot use these words alone as a filename.

Directories and Folders

- An operating system maintains a list of files called a **directory** for each disk, CD-ROM or DVD.
- The main directory of a disk is its **root directory**.
- Most operating systems allow the user to divide a directory into smaller lists called **folders** or **subdirectories**.
- A computer file's location is defined by a **file specification** (or **path**) which includes the drive letter, folder(s), filename, and extension.

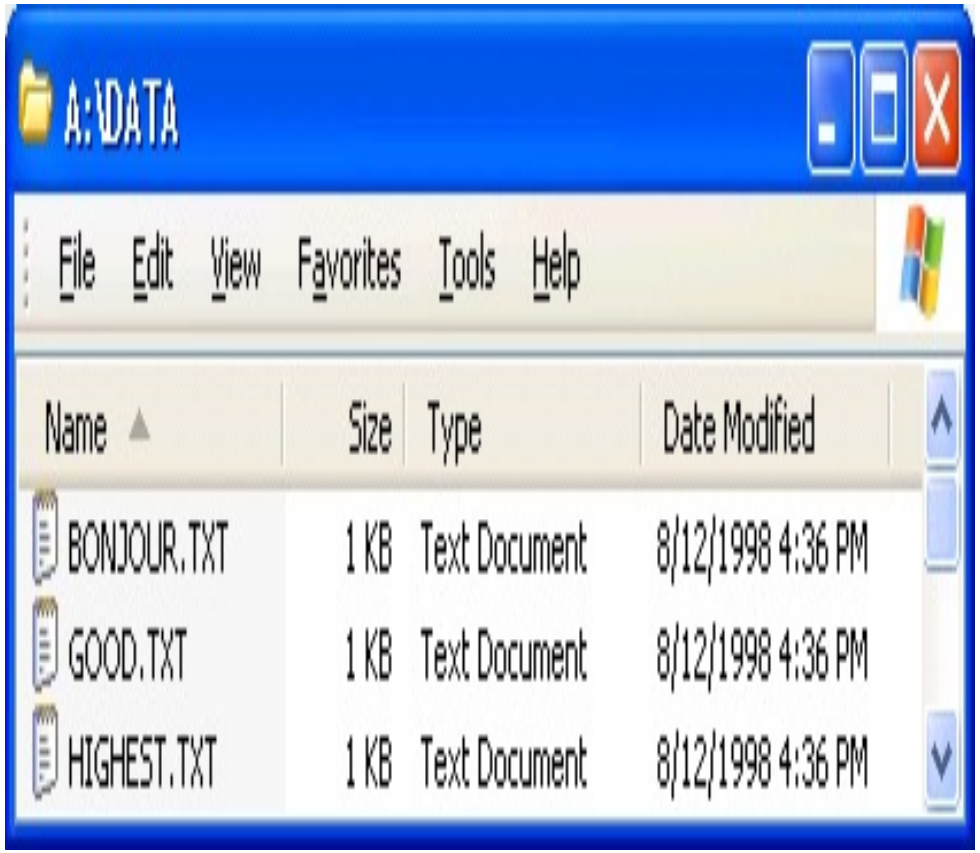
Example File Specification





- A:\DATA\GOOD.TXT
  - A: is the **Drive Letter**
  - DATA is the **folder name**
  - GOOD is the **filename**
  - .TXT is the **filename extension**

File Sizes and Dates



- **File size** is usually measured in bytes, kilobytes or megabytes.
- The **file date** is the date the file was created or last modified.

File Management

- Folders are the best way to organize and store your data on your computer. Folders located inside other folders are often called subfolders. Steps of creating a folder in windows.
  - Go to the location (either a folder or the desktop) where you want to create a new folder.
  - Right-click a blank area on the desktop or in the folder window, point to New, and then click Folder.
  - Type a name for the new folder, and then press ENTER.

Moving/copying Files

- To move files, first highlight the files and then choose Edit, Cut from the menu, and Edit, Paste in the menu of the target window.
- Files can also be moved and copied by dragging.
- Place the mouse pointer on a highlighted file and move it while holding down the left mouse button.
- Release button at the target point.

Deleting Files

- When you delete a file, the operating system changes the status of the file's clusters to empty and removes the filename from the FAT.
- To delete data from a disk in such a way that no one can ever read it, you can use special file shredder software that overwrites empty sectors with random 1s and 0s.
- The Windows Recycle Bin is designed to protect you for accidentally deleting hard disk files that you actually need.

Questions

1. What are the differences between the command line and GUI interfaces?
2. What is a non-real-time OS?
3. What are the characteristics of a non-real-time OS?
4. Where can a non-real-time OS be applied?
5. Critically, discuss the following features of a Windows Desktop:
    I. Start Button
    II. Taskbar
    III. System tray

Questions cont .....

6. State the steps that you have to follow to create a folder with three subfolders on the desktop?

7. Name and explain the four mouse operations

8. What is a **water mark**? What steps would you follow to insert watermark in a word document?
9. What is the difference between the following types of document views: *draft view* and *outline view*?
10. List any two examples of word processing Applications