



SAXONY EGYPT  
UNIVERSITY  
FOR APPLIED SCIENCE  
AND TECHNOLOGY

# ECT 113

## Information Technology

**Dr. Amina Elhawary**



# Course Assessment



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- The course assessment comprises the following :

- Final Exam (40%)
- Midterm Exam (15%)
- Tutorial Work ( Quizzes, Assignments,..) (10%)
- Lab Work ( Project, Assignments,..) (25%)
- Final Course Project (10%)

# References



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- Succeeding in information Technology: Tips and Strategies To Be An IT Superstar, Michael Leonardich.
- Information Technology Essentials: Basic Foundations for Information Technology Professionals, by Eric Frick.



# Course Outlines



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- Fundamentals of Computers Hardware and Software
- Problem-Solving and Program Design
- Program Implementation
- Information Processing & Data Representation
- Word Processing, Presentation, & Web Design





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# Lecture 1

## Introduction to Information Technology



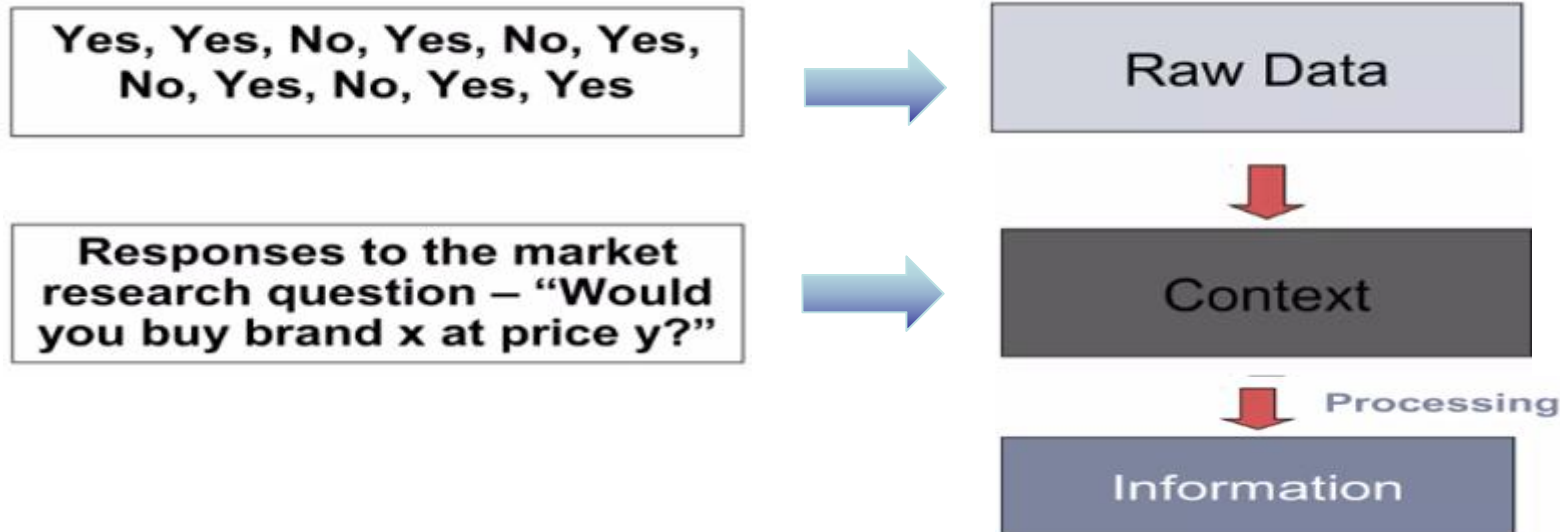
# What is Information ?



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- **Information** is a processed and organized collection of data that conveys meaning and is useful for decision-making, ex: image, text, audio and video.

## Example



# What is Information Technology ?



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- **Information Technology (IT)** refers to the use of computers, networking, software, and communication systems to store, process, transmit, and retrieve information efficiently."

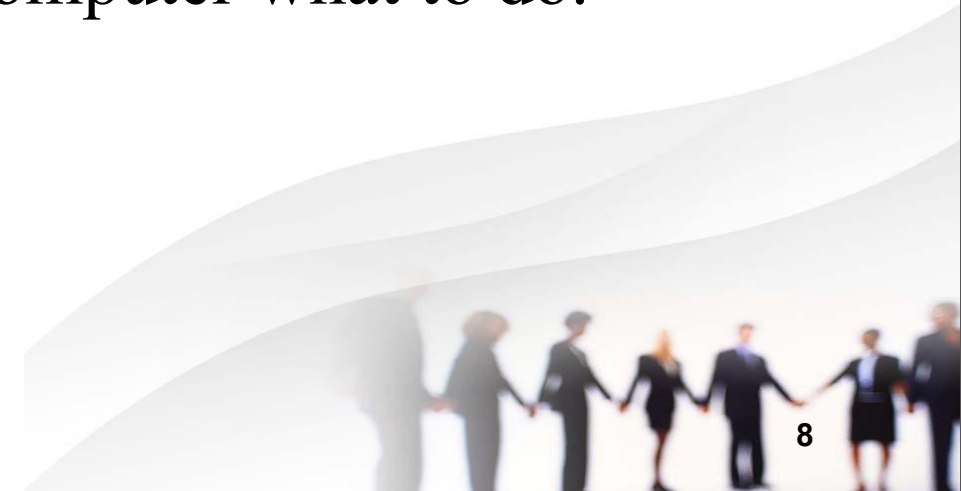


# What is Computer ?



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- **Computer:** An electronic device that is programmed to accept data, process data into useful information and store it for later use.
- Computer consists of **Hardware** and **Software**.
- **Software** is a set of instructions that tells a computer what to do.
- **Hardware** is the physical part of a computer.







- **These hardware component includes:**

- Input devices
- Output devices
- Central Processing Unit (CPU)
- Memories & Storage devices
- Communications devices



# Input Devices



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- An **input device** is any hardware component that allows you to enter data and instructions into a computer or control its operation.
  - These **input devices** are:



# Output Devices



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- An **output device** is any hardware component that is used to display or output data which has been processed or has been stored on the computer.
  - The commonly used output devices are:



# System Unit



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- The **system unit** is a case that contains the electronic components of the computer that are used to process data.

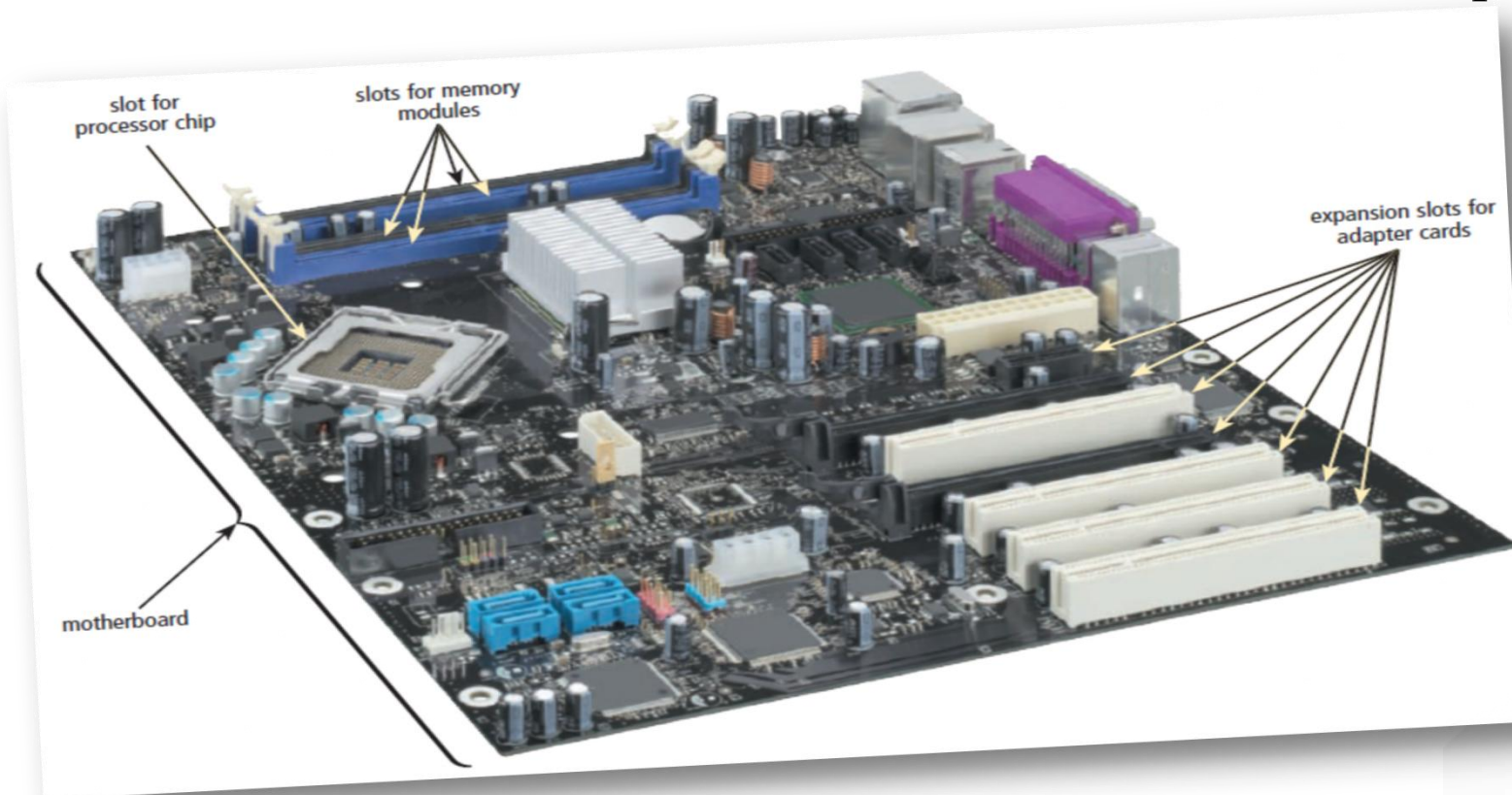


# MotherBoard



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- A **motherboard** is the main circuit board of a computer. It acts as a central hub that connects and allows communication between various components.



# Central Processing Unit



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- CPU (Central Processing Unit) – The brain of the computer, responsible for processing data and it is the electronic circuitry that carries out the instructions of a computer program by performing the basic arithmetic, logical, control and input/output operations.
  1. It receives data as input
  2. Follows instruction, and processes data accordingly
  3. Present the information as output to the user
  4. Its primary function is to execute programs



# What is Memory ?



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➤ **Computer Memory** is the storage space in computer where data is to be processed and instructions required for processing are stored.

- **Memory** is of three types :
  1. Cache Memory
  2. Primary Memory/ Main Memory
  3. Secondary Memory

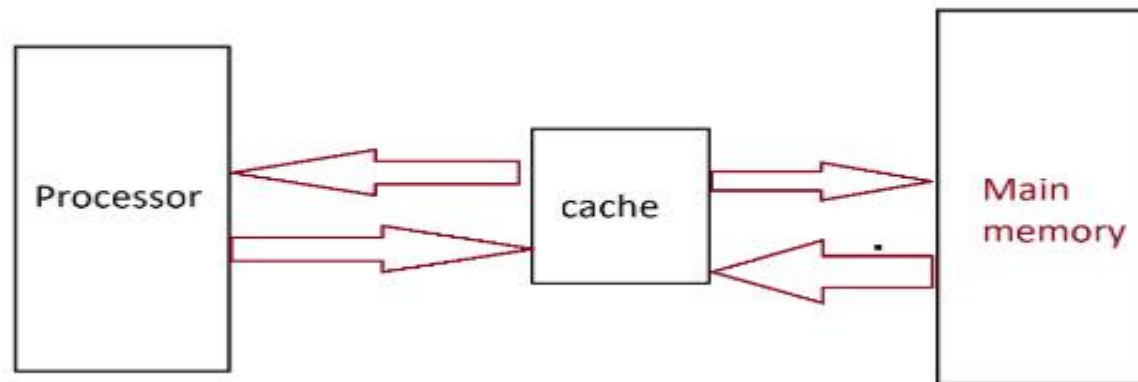
# Cache Memory



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➤ **Computer Memory** is a smaller, faster memory which stores copies of the data (instruction) from frequently used main memory locations (RAM).

- It acts as a **buffer** between the CPU and main memory.
- It is used to hold those parts of data and program which are mostly frequently used by CPU





# Primary/ Main Memory



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- It is divided into two subcategories **ROM** and **RAM**.
  - The computer has a **ROM** (Read Only Memory) which is used to store the boot program and other low-level information that enable the computer to start up and to recognize its hardware parts.
  - ROM is called non-volatile memory.

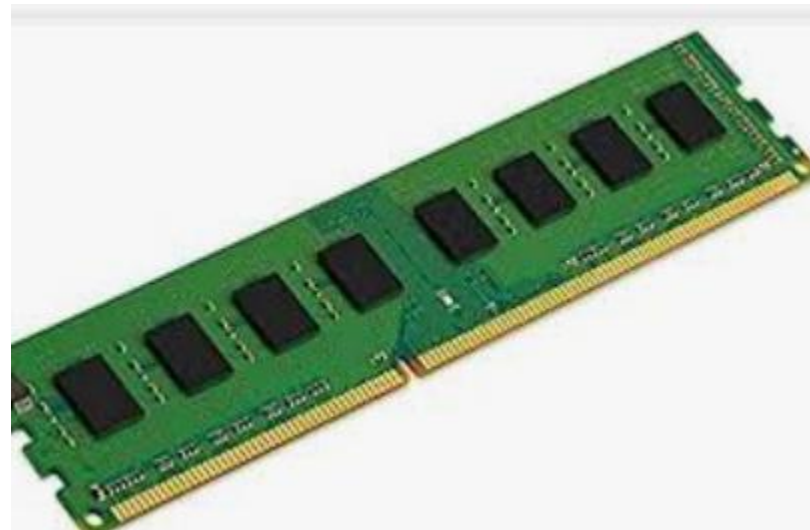


# Primary/ Main Memory



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- **RAM** (Random Access Memory) is the area in a computer in which data is stored for quick access by the processor /(CPU).
- Data is held in the RAM is erased when the computer is reset or the power is turned off.
- RAM is also called read/write memory of auxillary memory.



# Storage Devices



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- A **data storage device** is a device for recording (storing) information/data.
- The hardware used to store data for future use are called **storage devices**.
  - These devices may be found inside or outside the computer.



# What is Computer Software ?



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- computer instructions or data, anything that can be stored **electronically is software.**
- **Examples:**  
MS word, excel, power point, spread sheets, library management system (LMS), etc.



# Types of Software



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## System Software.

- The **System Software** consist of the operating system and all the utilities that enables the computer to function.
- **System Software** actually controls the hardware so that application software can perform any action or task.

## **Examples:**

Operating Systems, Compiler, Interpreter, utilities.



# System Software



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- **Operating System** is system software which manages computer hardware and software resources. it also provides common services to computer programs ( **windows, Linux, MACos**).
- **Utilities software** is system software which is manufactured to help, analyze, configure, optimize or to maintain a computer ( **virus-detection and recovery utilities, file-compression utilities, backup, and uninstall**).

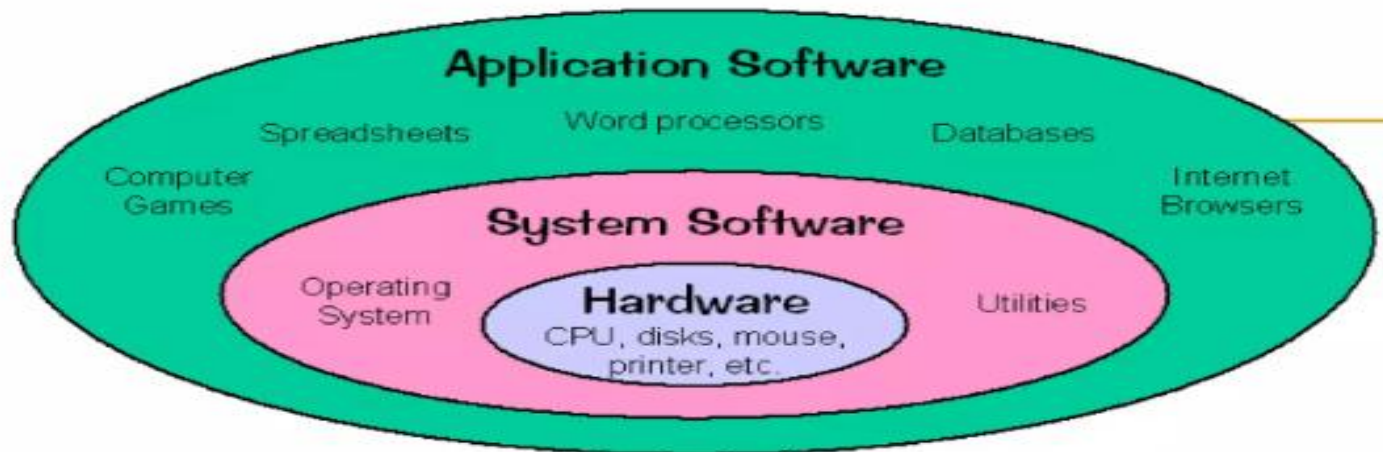
# Types of Software



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## Application Software

- **Application Software** consists of programs that are designed to make users more comfortable or productive to assist personal tasks.
- **Application Software** is present on computer hard disk.
- **Application Software** can also be stored on CDs, DVDs, and flash or keychain storages devices.



# Application Software



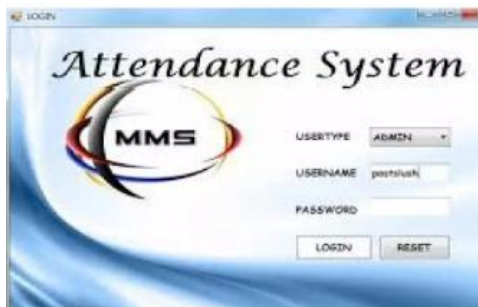
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## ➤ Forms of Application Software

- A **Package Software** which is sold in a bundle due to similar function of programs ( Microsoft office, windows CD)



- A **Custom Software** which is specially made for an organization as per their requirement ( Attendance system, Security code system).





# Application Software



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- A **Web Application** is any application uses a web browser ( Google docs, Drop box).



- A **Free ware** is the software that is freely available to public but author has a copy right, means that you can only use it, not sell it (Antivirus).





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# THANK YOU

