



Lecture title: Computer types and Features

Lecturer Affiliation: *Iman Thannoon Sedeeq, BSc, MSc, PhD*
Assistant Professor, Department of Public Health
College of Veterinary Medicine, University of Mosul, Mosul, Iraq
<https://orcid.org/0000-0001-5903-3593>

Summary:

Computer types and Features

Computer Generations

- **First Generation** The period of first generation: 1946-1959. Vacuum tube base.
Very slow and very large
- **Second Generation** The period of second generation: 1959-1965. Transistor based.
Smaller in size, had low power consumption, and generated less heat (in comparison with the first-generation computers).
- **Third Generation** The period of third generation: 1965-1971. Integrated Circuit based IC.
- **Fourth Generation** The period of fourth generation: 1971-1980. VLSI microprocessor based.
Very Large Scale Integration. By incorporating millions of transistors into a single chip, integrated circuits (ICs) are produced.
- **Fifth Generation** The period of fifth generation: 1980-onwards. ULSI microprocessor based.
Ultra Large-Scale Integration.





Classification of computers

Computers come in sizes from tiny to monstrous, in both appearance and power. The size of a computer that a person or an organization needs depends on the computing requirements.

Supercomputers

The most expensive-are known as supercomputers process billions of instructions per second. Most people do not have a direct need for the speed and power of a supercomputer. Supercomputers are used for tasks that require mammoth data manipulation, such as worldwide weather forecasting and stock analysis.

Mainframes

are large computers. Mainframes are capable of processing data at very high speeds-millions of instructions per second. They are used in banks, insurance companies, manufacturers and online shopping.



Personal computers

are often called PCs. They range in price from a few hundred dollars to a few thousand dollars. A PC usually comes with a *tower* that holds the main circuit boards and disk drives of the computer, and a collection of *peripherals*, such as a keyboard, mouse, and monitor.

Notebook Computers

also known as Laptop computers, are portable and functional, and popular with travelers who need a computer that can go with them.

Please visit the Veterinary Medicine website <https://uomosul.edu.iq/veterinarymedicine/> and download the Activities from the Lecture Icon



HandHeld computers- *pen-based computers accept handwritten input directly on a screen.*

Users of the handheld pen-based computers, also called personal digital assistants



Numbering Systems

Number systems are simply ways to count things. Ours is the base-10 or radix-10 system.

No.	Number System and Description
1	Decimal Number System Base 10. Digits used : 0-9
2	Binary Number System Base 2. Digits used : 0, 1
3	Octal Number System Base 8. Digits used : 0 to 7
4	Hexa Decimal Number System Base 16. Digits used: 0 to 9, Letters used : A- F

Example : 642 in base 10 *positional notation* is:

$$2 \times 10^0 + 4 \times 10^1 + 6 \times 10^2$$

$$2 + 40 + 600 = \underline{642} \text{ in base 10}$$

This number is in base 10

The power indicates the position of the number

~~Digital computers are made up of electronic circuits, which have exactly 2 states: on and off.~~

~~Computers use binary numbering system which has exactly 2 symbols, representing on and off.~~

download the Activities from the Lecture Icon

University of Mosul
Lecture No.: 4
College of Veterinary Medicine
Date: 2024-2025
Unit of Scientific Affairs
Website: : <https://uomosul.edu.iq/veterinarymedicine/>

