COMPUTER SKILLS
IT 002
FALL 2026-2027

@ MANAR ALAMAT

2 OUTLINE

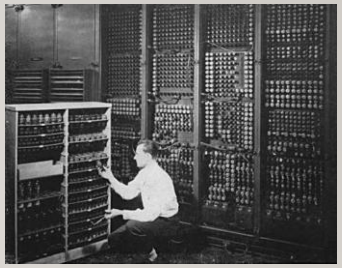
- What is computer
- History of computers
- Computer system
- Hardware vs. software
- What are the different types of computers?
- Important definitions
- Input and Output
- Reference

3 WHAT IS A COMPUTER?

- A computer is an electronic device that manipulates information, or data. It has the ability to store, retrieve, and process data. You may already know that you can use a computer to :
  - type documents
  - send email
  - play games
  - browse the Web.
  - edit or create spreadsheets,
  - presentations, and even videos.

4 HISTORY OF COMPUTERS

- In the history of computers, we often refer to the advancements of modern computers as the generation of computers:
  1. **1st Generation:** This was from the period of 1940 to 1956. This was when machine language was developed for the use of computers. For example, ENIAC, UNIVAC-1.



  2. **2nd Generation:** The years 1956-1964 were referred to as the "second generation of computers" at the time. In this generation, the computers became smaller, faster and more energy-efficient. And it advanced from binary to assembly languages. IBM 1620, IBM 7094, CDC 1604, CDC 3600.



5 HISTORY OF COMPUTERS

3. **3rd Generation: The hallmark of this period (1964-1971) was the development of the integrated circuit.**
A single integrated circuit (IC) is made up of many transistors, which increases the power of a computer while simultaneously lowering its cost. For example, the IBM-360 series, t he Honeywell-6000 series, and the IBM-370/168.



6 HISTORY OF COMPUTERS

4. **4th Generation:** The invention of the microprocessors brought along the fourth generation of computers. The years 1971-1980 were dominated by fourth generation computers. C, C++ and Java were the programming languages. For instance, the STAR 1000, PDP 11, CRAY-1, CRAY-X-MP, and Apple II. This was when we started producing computers for home use.



5. **5th Generation:** These computers have been utilized since 1980 and continue to be used now. This is the present and the future of the computer world. The defining aspect of this generation is artificial intelligence. C, C++, Java,.Net, and more programming languages are used. For instance, IBM, Pentium, Desktop, Laptop, Notebook, Ultrabook, and so on.



7 GENERATION OF COMPUTERS



Vacuum Tube



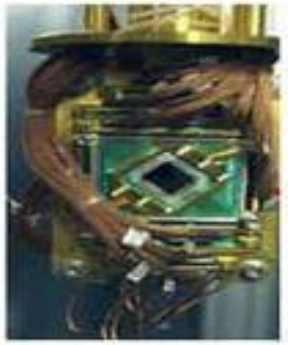
Transistors



Integrated Circuit



Microprocessor



Quantum Computer



1st Generation Computer



2nd Generation Computer



3rd Generation Computer



4th Generation Computer



5th Generation Computer

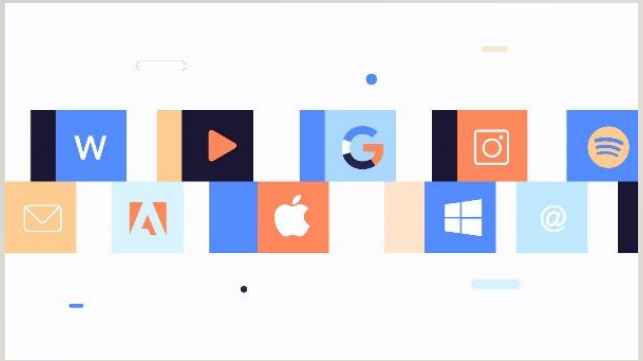
8 COMPUTER SYSTEM

- **Computer system: a** complex configuration composed of hardware, software, and additional equipment designed to work in synchrony to facilitate data processing.
- A computer system consists of
  - hardware components that they work well together
  - software components that run in the computer
  - User that commands the computer system to execute on instructions.
  - Network that connect the computer to the internet.

9 HARDWARE VS. SOFTWARE

Before we talk about different types of computers, let's talk about two things all computers have in common: hardware and software.

- Hardware is any part of your computer that has a physical structure, such as the keyboard or mouse. It also includes all of the computer's internal parts, which you can see in the image below.
- Software is any set of instructions that tells the hardware what to do and how to do it. Examples of software include web browsers, games, and word processors.



Software



Hardware

10 WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

When most people hear the word computer, they think of a personal computer such as a desktop or laptop. However, computers come in many shapes and sizes, and they perform many different functions in our daily lives. When you withdraw cash from an ATM, scan groceries at the store, or use a calculator, you're using a type of computer.

1. Desktop computers:

Many people use desktop computers at work, home, and school. Desktop computers are designed to be placed on a desk, and they're typically made up of a few different parts, including the computer case, monitor, keyboard, and mouse.

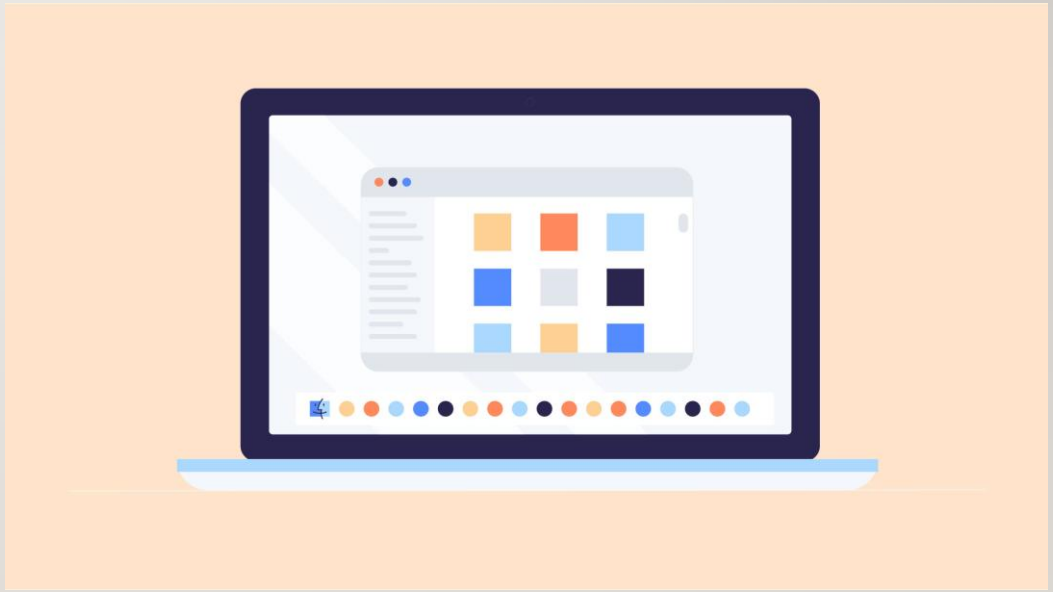


11 WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

II. Laptop computers

The second type of computer you may be familiar with is a laptop computer, commonly called a laptop.

Laptops are battery-powered computers that are more portable than desktops, allowing you to use them almost anywhere.

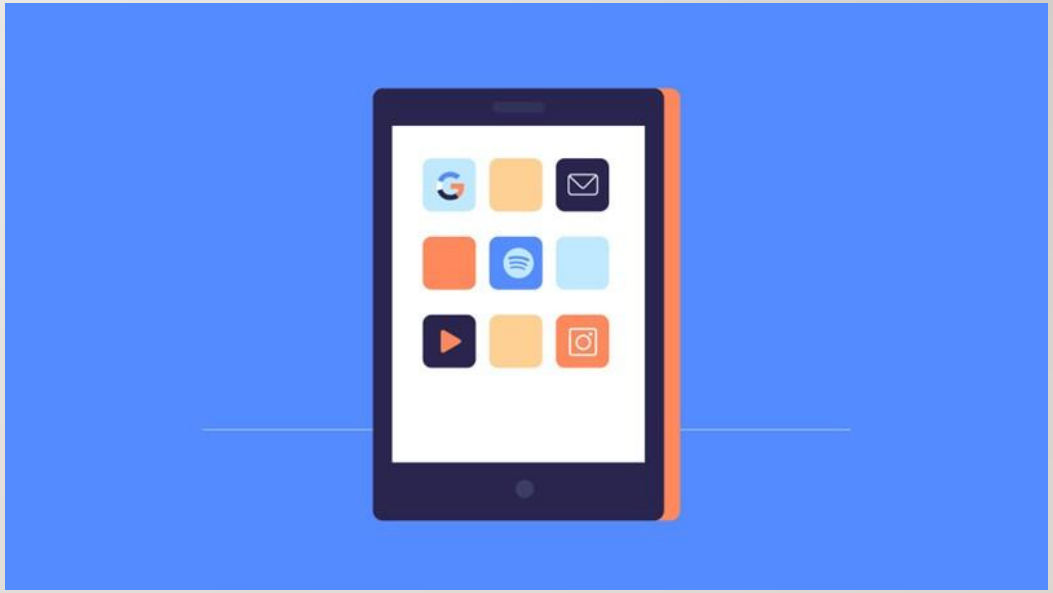


12 WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

III. Tablet computers

Tablet computers—or tablets—are handheld computers that are even more portable than laptops.

Instead of a keyboard and mouse, tablets use a touch-sensitive screen for typing and navigation. The iPad is an example of a tablet.



13 WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

IV. Servers

A server is a computer that serves up information to other computers on a network. For example, whenever you use the Internet, you're looking at something that's stored on a server.

Many businesses also use local file servers to store and share files internally.



WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

V. Other types of computers

Many of today's electronics are basically specialized computers, though we don't always think of them that way. Here are a few common examples.

- **SMARTPHONES:** many cell phones can do a lot of things computers can do, including browsing the internet and playing games.



- **WEARABLES**: wearable technology is a general term for a group of devices—including fitness trackers and smartwatches—that are designed to be worn throughout the day. these devices are often called wearables for short.



WHAT ARE THE DIFFERENT TYPES OF COMPUTERS?

- **GAME CONSOLES**: a game console is a specialized type of computer that is used for playing video games on your tv.



- **TVS:** many TVs now include applications that let you access various types of online content. for example, you can stream video from the internet directly onto your tv.



IMPORTANT DEFINITIONS

Understanding what a computer is and how it works can help you appreciate and use it more effectively.

- A ***computer*** is an electronic device that receives data (input), processes data, stores data, and produces a result (output).
- ***Data*** is a collection of raw unprocessed facts, including text, numbers, sound, images, and video.
- ***Data*** is text, numbers, sound, images, or video.
- ***Information***: Data transformed into meaningful form

17 IMPORTANT DEFINITIONS

- The actual machine—wires, transistors, and circuits—is called ***hardware***.
- ***Software*** consists of instructions or programs for controlling the computer.
- The computer receives data through an input device, processes the data, produces the output information on an output device, and stores the information on a storage device.

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Hardware is Controlled by Software

18 IMPORTANT DEFINITIONS

- The input and output devices, such as keyboards and monitors, are types of hardware called ***peripherals***.

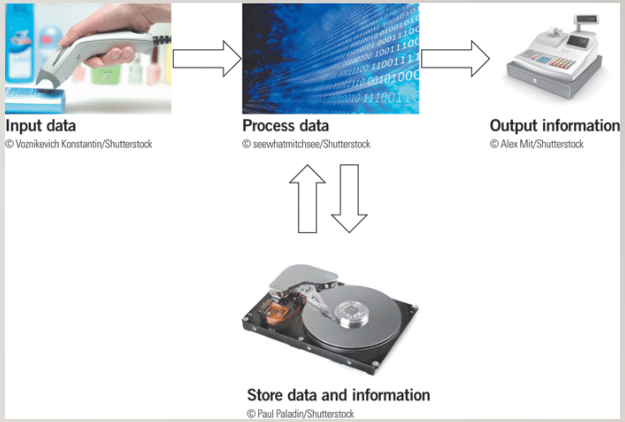


INPUT AND OUTPUT

- **Input:** is any data or instructions that are used by a computer. They can come directly from the user or from other sources
- **Input devices** are hardware used to translate words, sounds, images, and actions that people understand into a form that the system unit can process,
- **Output:** is processed data or information. It takes typically the form of text, graphics, photos, audio and video.
- **Output devices** are any hardware used to provide or to create output. They translate information that has been processed by the system unit into a form that humans can understand.

20 INPUT AND OUTPUT

- Input, processing, output, and storage (IPOS) is called the ***information processing cycle***. https://techspirited.com/information-processing-cycle
- **Understanding Information Processing Cycle (IPOS)**
  - **Input.** This is the first event in the cycle. This stage involves collection of data from external sources or from within the system.
  - **Processing**. In this stage the computer processes the minutest details entered. This makes the data entered usable.
  - **Output**. The processed information is now transmitted to the user. After processing the data, there can be further interactive queries asked or routine reports can be given.
  - **Storage** After the data has been processed along with the output to the user, it is also stored. Some of the commonly used data storage methods are disk storage,

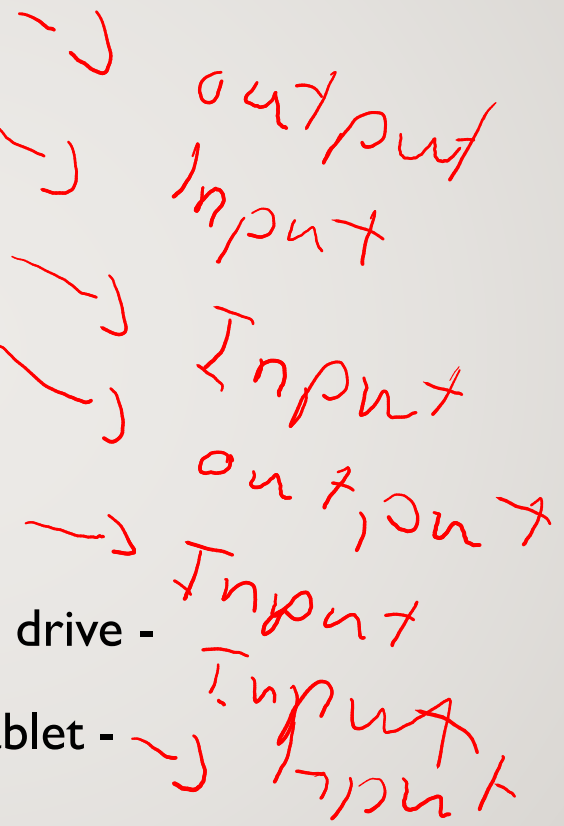


WHICH DEVICES ARE CONSIDERED INPUT DEVICES AND WHICH ARE OUTPUT DEVICES?

- Printer
- Mouse -
- Keyboard
- Monitor -
- Web cam -
- Scanner -
- USB thumb drive -
- Graphics tablet -

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23 REFERENCE

- https://www.studysmarter.co.uk/
- https://www.toppr.com/
- https://edu.gcfglobal.org/