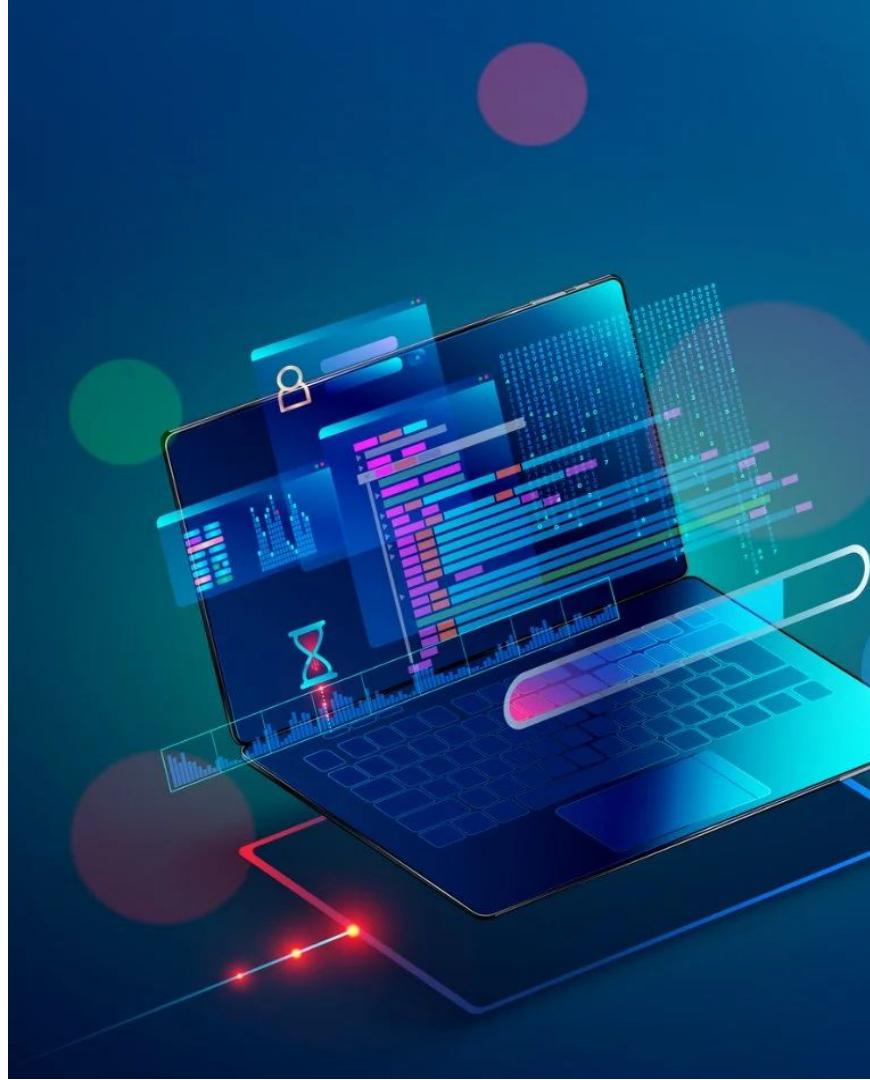


CSE 1110

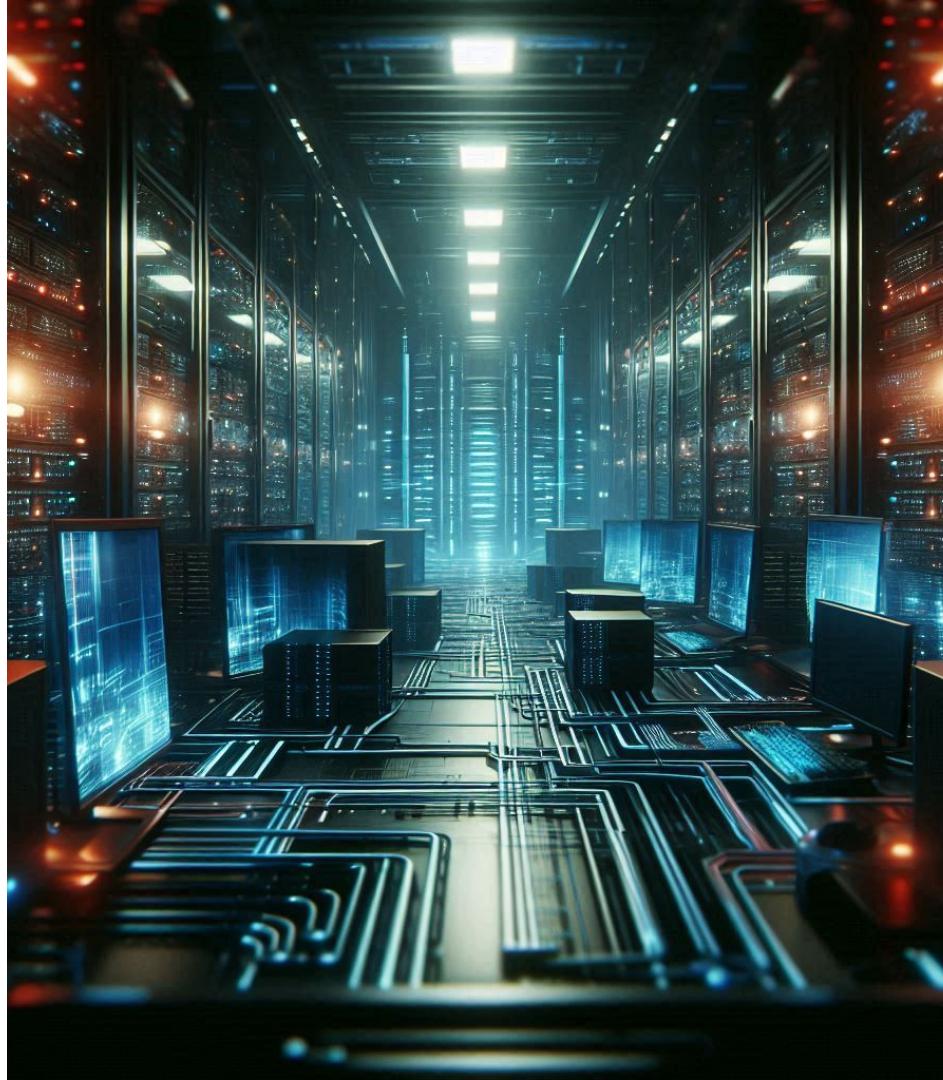
Introduction to Computer System



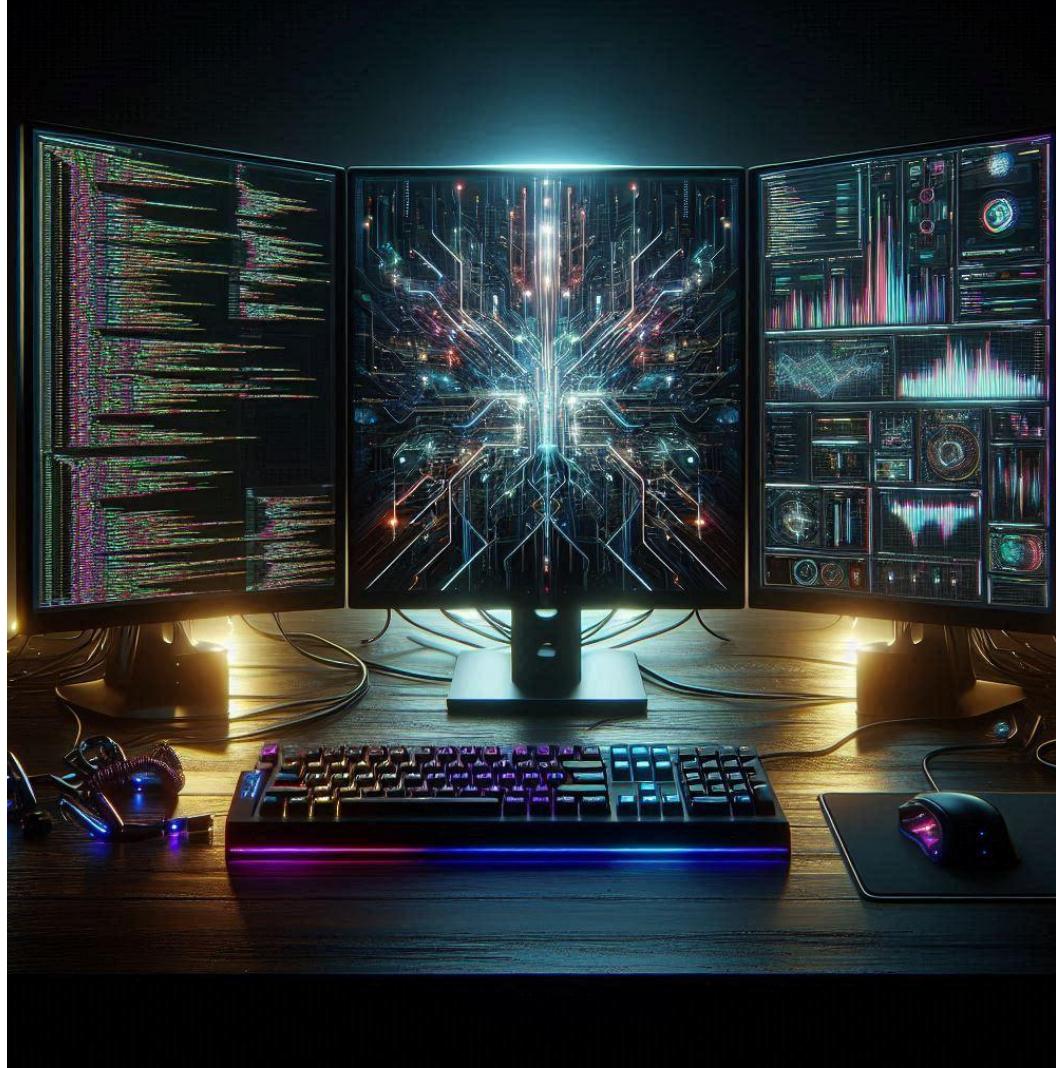
Class Outline

- ➡ Exploring the background of the students.
- ➡ Why and how at CSE, UIU?
- ➡ What is a Computer?
- ➡ What is Hardware, Software and System?

What is
**Computer Science and
Engineering?**



What is a Computer ?

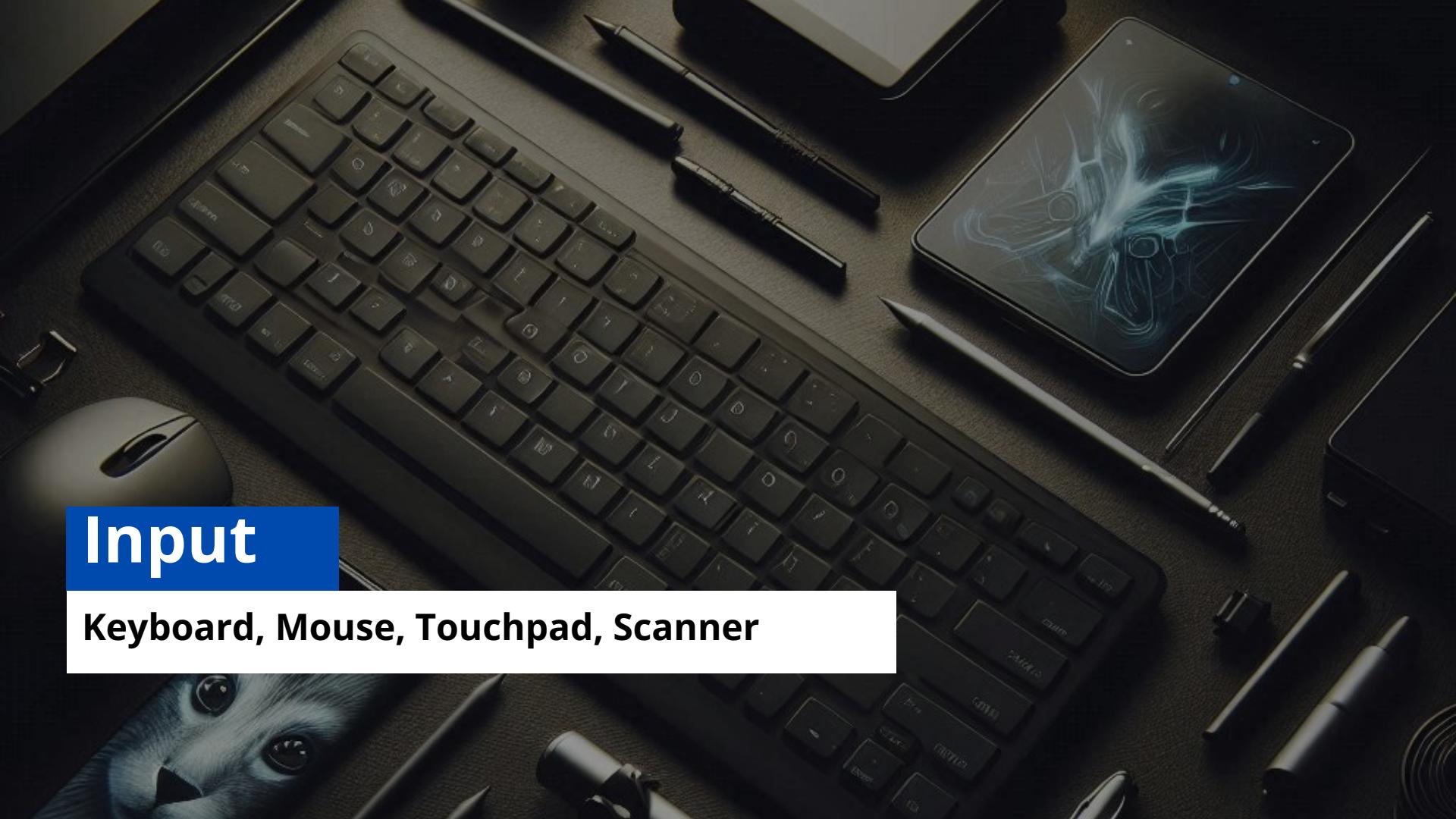


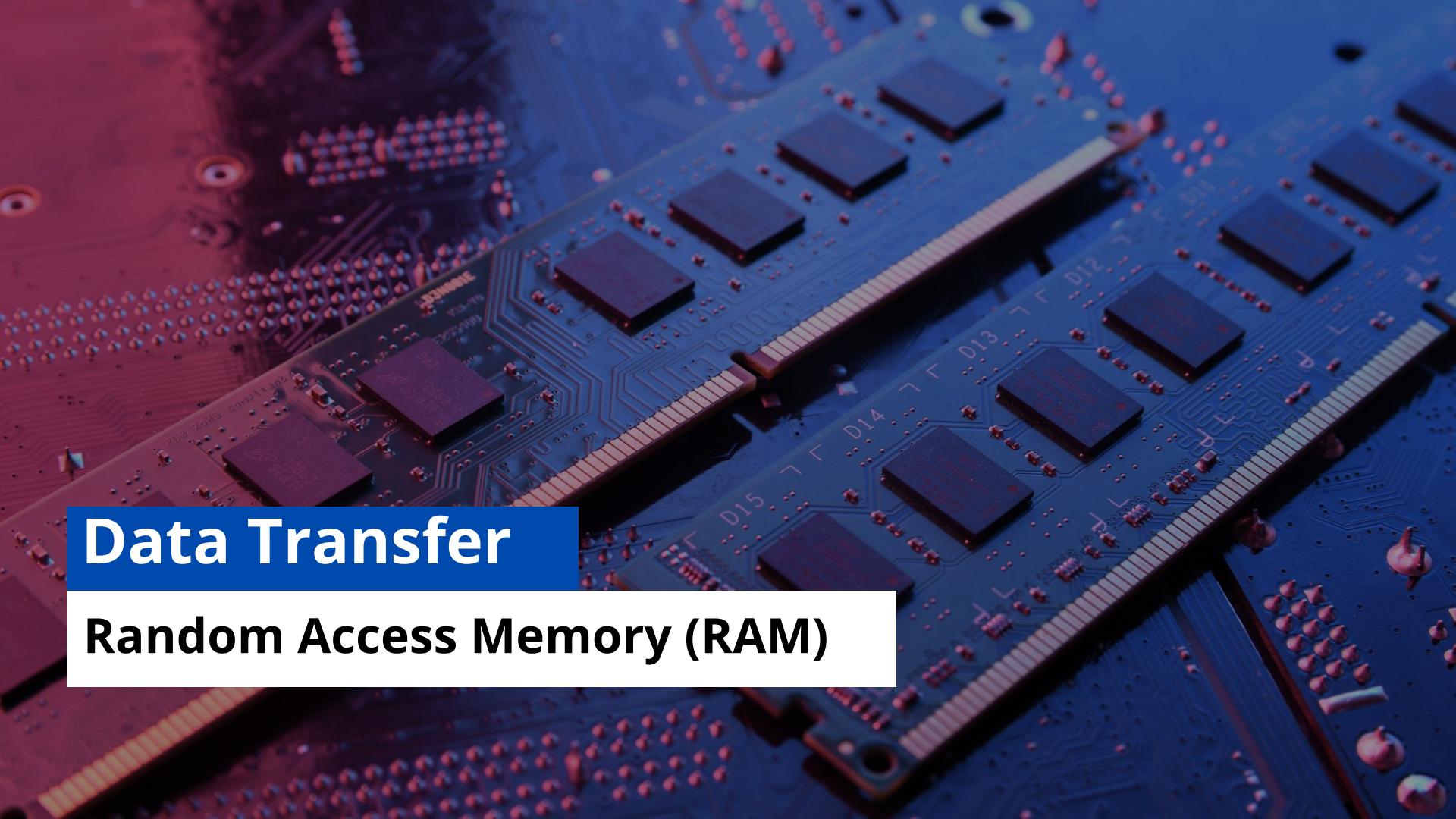
What is a Computer?

A computer is an electronic device that can take in **data (input)**, **process it to make it useful (processing)**, **store it (storage)**, and **produce results (output)** according to specific instructions called programs.

Input

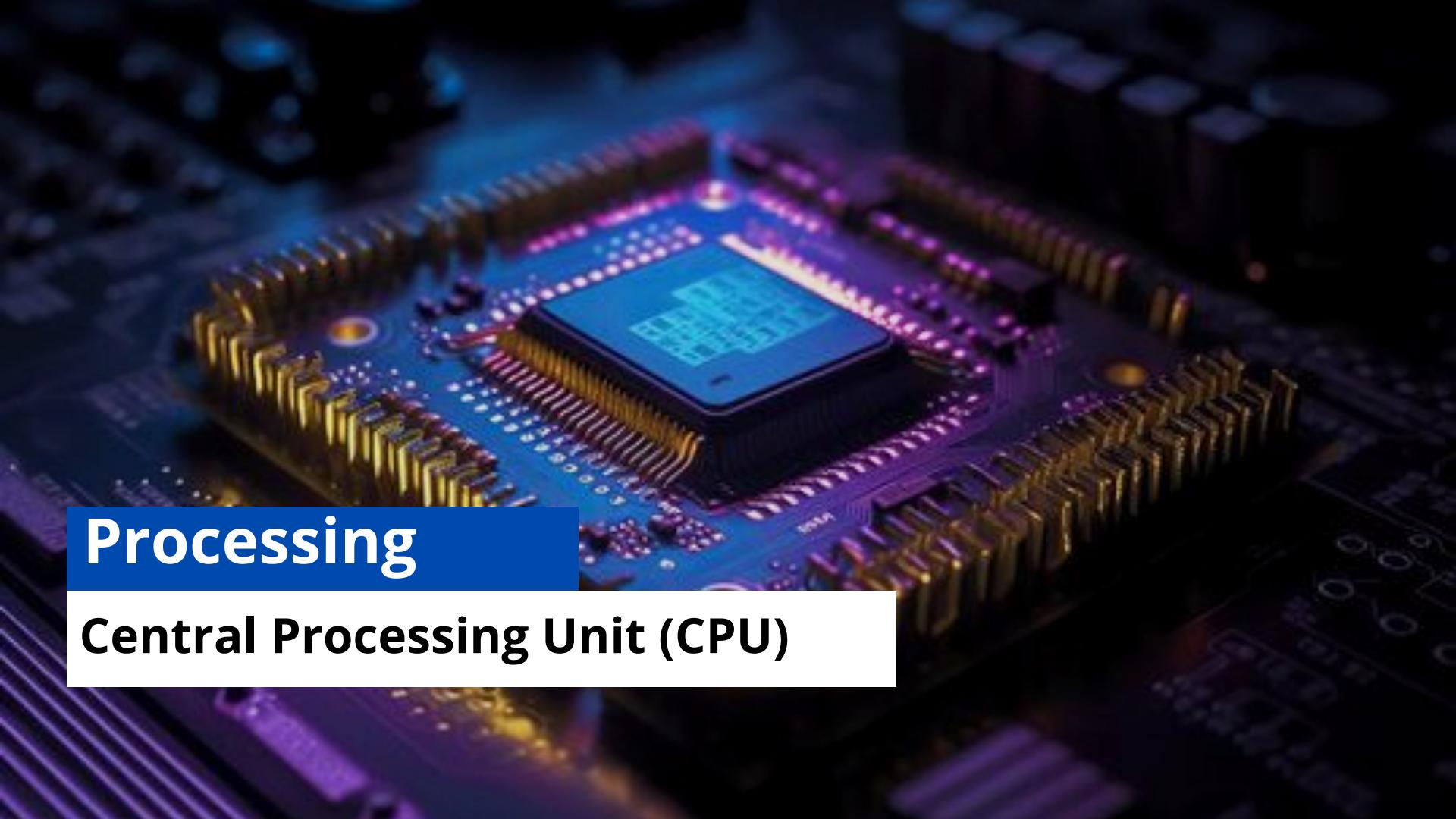
Keyboard, Mouse, Touchpad, Scanner





Data Transfer

Random Access Memory (RAM)

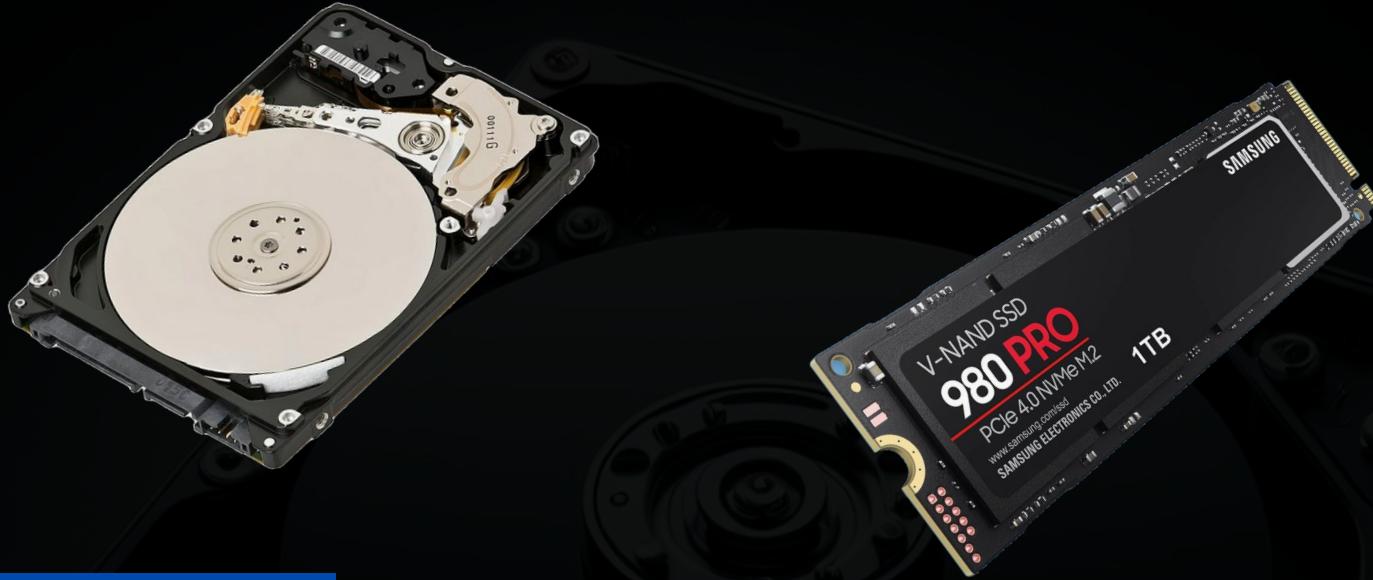


Processing

Central Processing Unit (CPU)

Storage

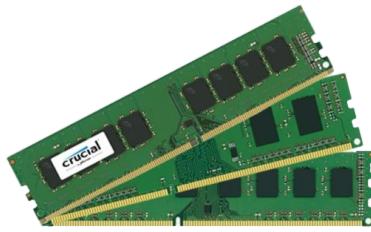
Hard drive, Solid State Drive (SSD)





INPUT

Keyboard, Mouse



Data Transfer

RAM



Storage

HDD, SSD



Processing

CPU



Output

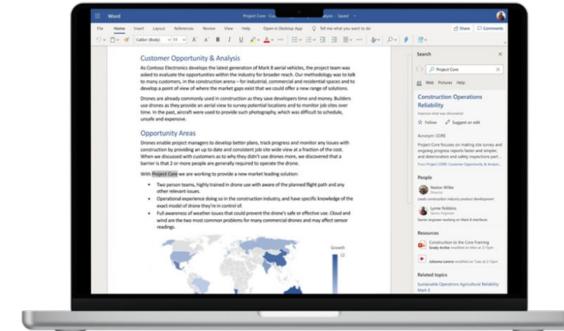
Monitor

Workflow of a Computer

Processing



Input



Output



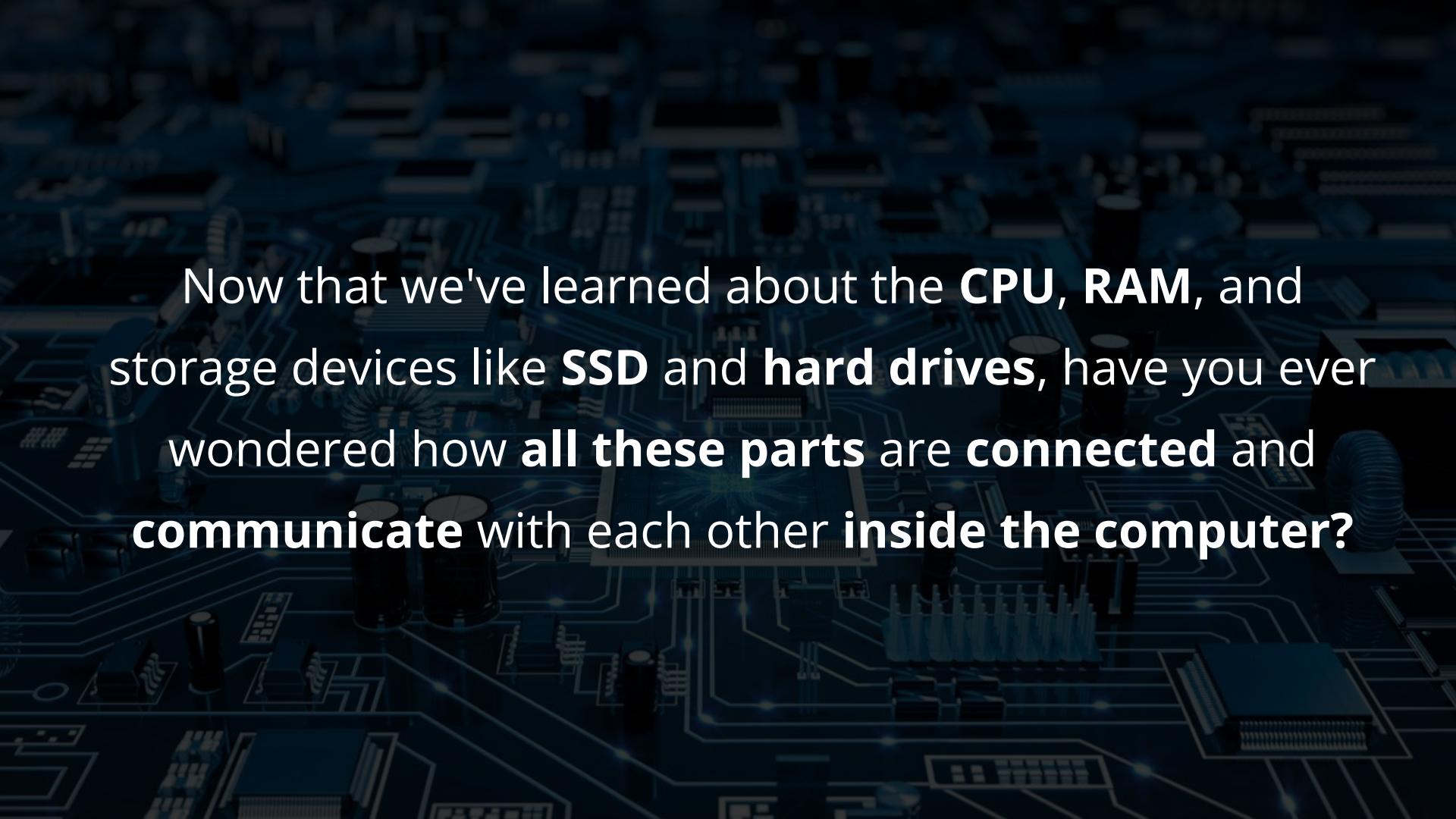
Are there any other devices?



Other Devices

- ▶ CD/DVD/Blu-ray Discs
- ▶ SD/MicroSD Cards
- ▶ Headphones/Earphones
- ▶ Speakers
- ▶ USB Flash Drive
- ▶ Tablets
- ▶ Game Controller
- ▶ Projector
- ▶ Printer





Now that we've learned about the **CPU**, **RAM**, and storage devices like **SSD** and **hard drives**, have you ever wondered how **all these parts** are **connected** and **communicate** with each other **inside the computer?**

Motherboard

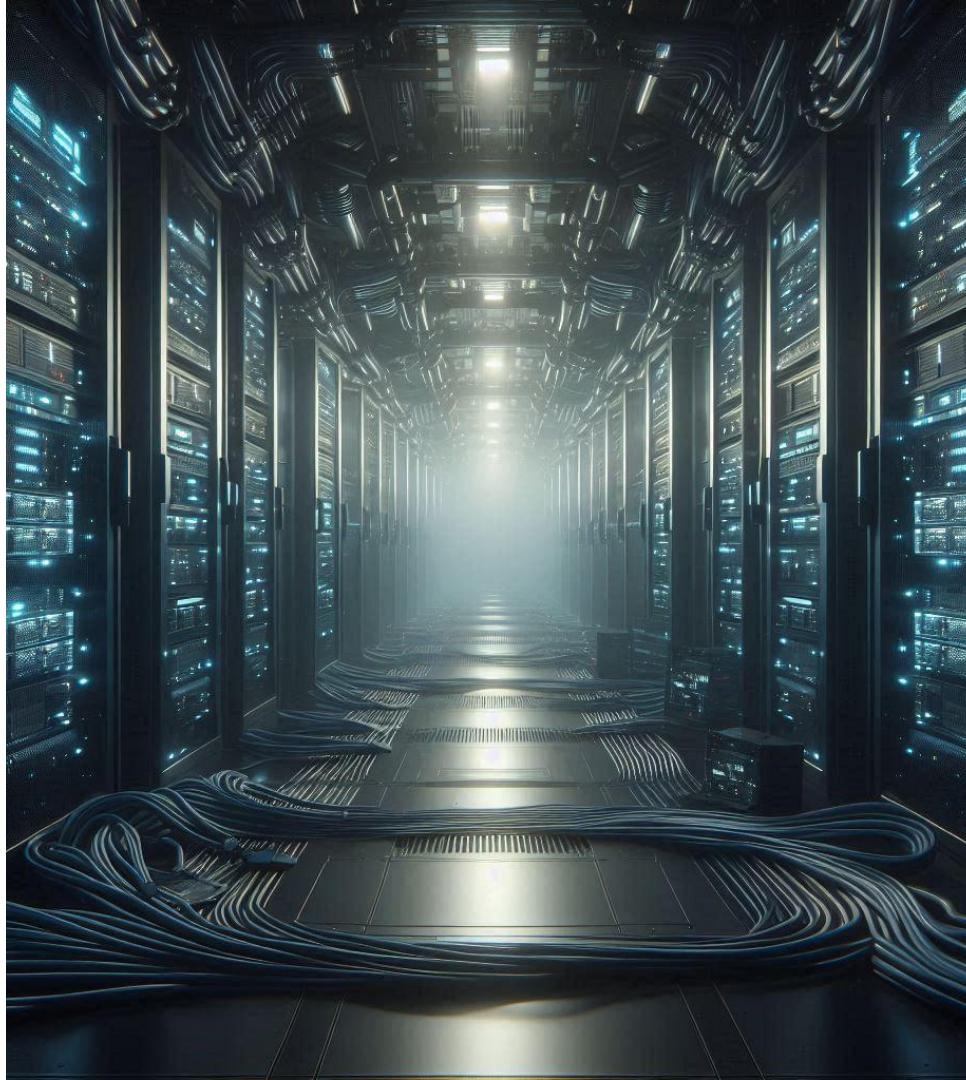
Backbone of a computer



Task For Next Lab Session

**WATCH A VIDEO ON DIFFERENT
COMPONENTS OF COMPUTER
AND IT'S INSTALLATION!!**

What is
Computational systems?



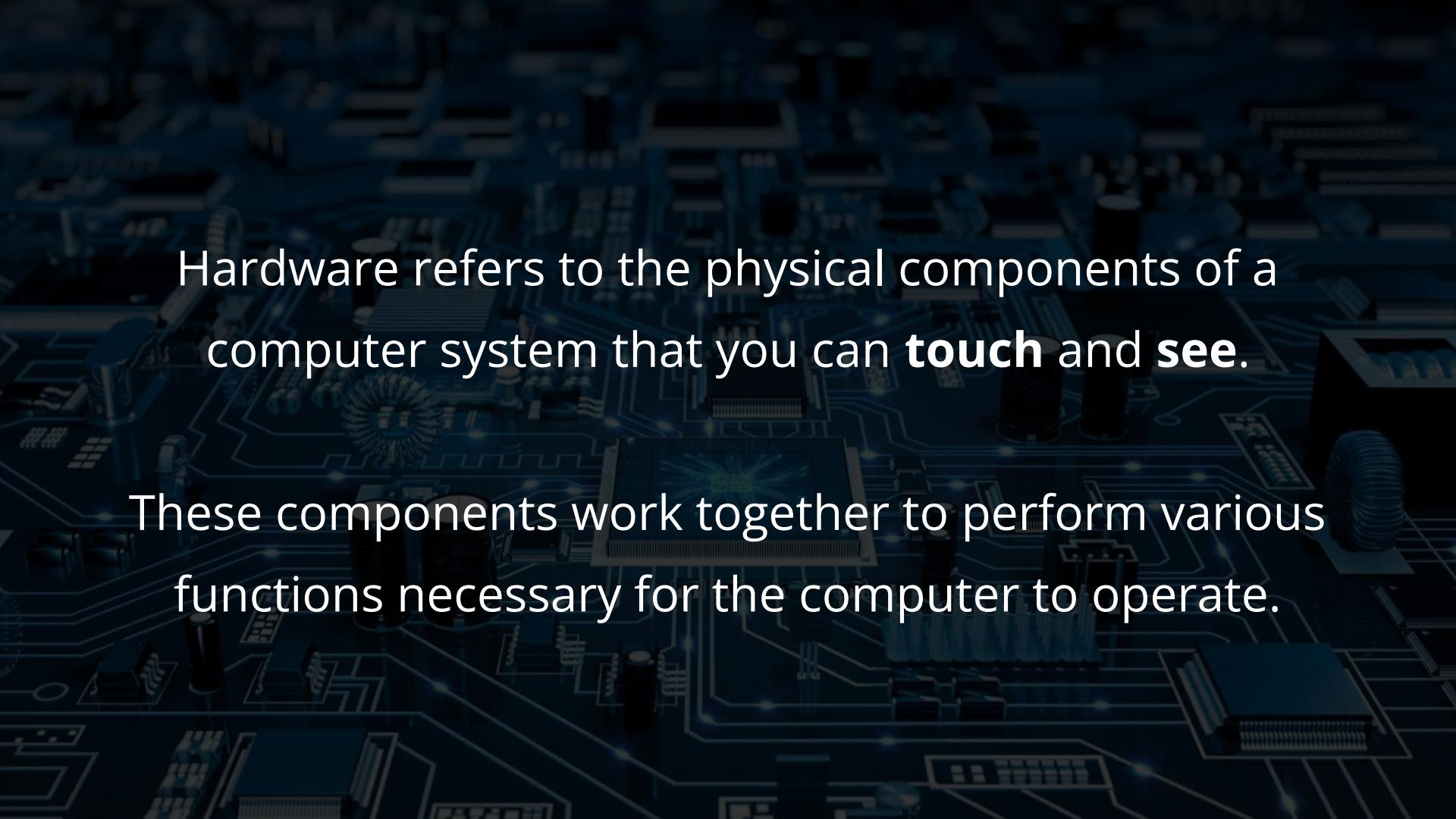


A computational system is a combination of **hardware** and **software** that work together to process data and perform tasks.

It includes everything from the **central processing unit (CPU)** and **memory** to **storage devices, input/output devices**, and the **operating system**.

What is **Hardware & Software?**





Hardware refers to the physical components of a computer system that you can **touch** and **see**.

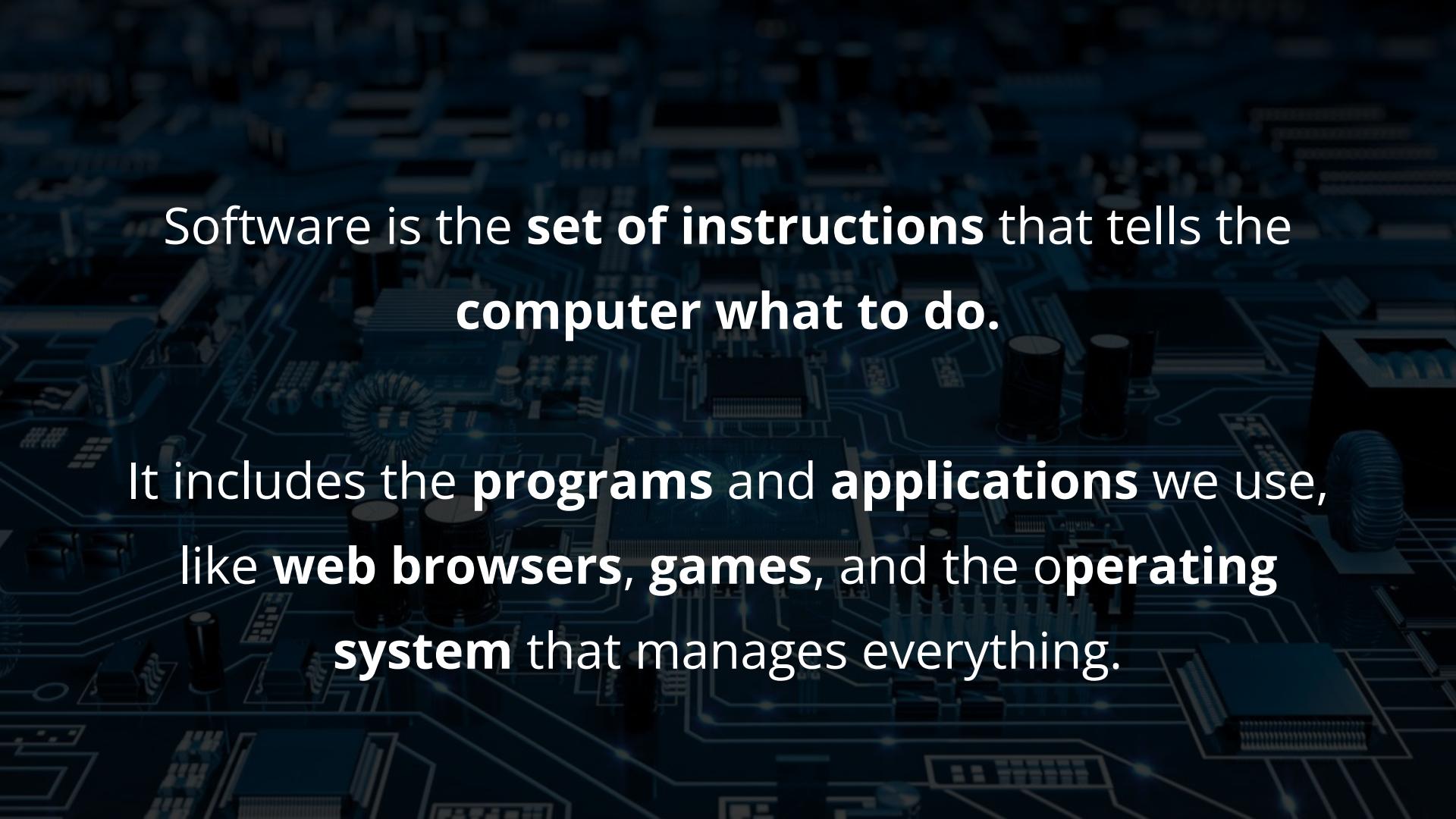
These components work together to perform various functions necessary for the computer to operate.

Are these hardwares then in CS?



Hardwares in CS





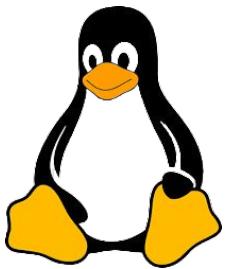
Software is the **set of instructions** that tells the
computer what to do.

It includes the **programs** and **applications** we use,
like **web browsers**, **games**, and the **operating
system** that manages everything.

Three types of software

- Programming software
- Operating system
- Application program





Linux



Android



macOS

Operating system



**Microsoft
Word**



**Microsoft
Powerpoint**



**Microsoft
Excel**

Application Programs



Google Chrome



Microsoft Edge

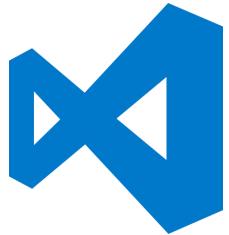


Mozilla Firefox

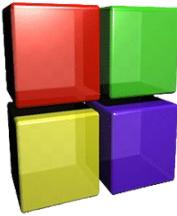
Web Browsers



Programming Languages



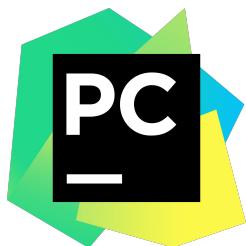
Visual Studio Code



Code Blocks



IntelliJ IDEA



PyCharm

Programming Softwares

Let's consider a situation/problem,

Tell your friend to find the sum of two numbers.

How will your friend carry out this task??



Solution Steps

Let's take a look at the steps taken by your friend to solve this problem:

Step 1: Writes the first number in his paper

Step 2: Writes the second number in his paper

Step 3: Adds the two numbers

Step 4: Shows you the result

Let's consider another situation,

Tell your friend to find the area of a rectangle.

How will your friend carry out this task??



Solution Steps

Let's take a look at the steps taken by your friend to solve this problem:

Step 1: Writes the length of the rectangle

Step 2: Writes the width of the rectangle

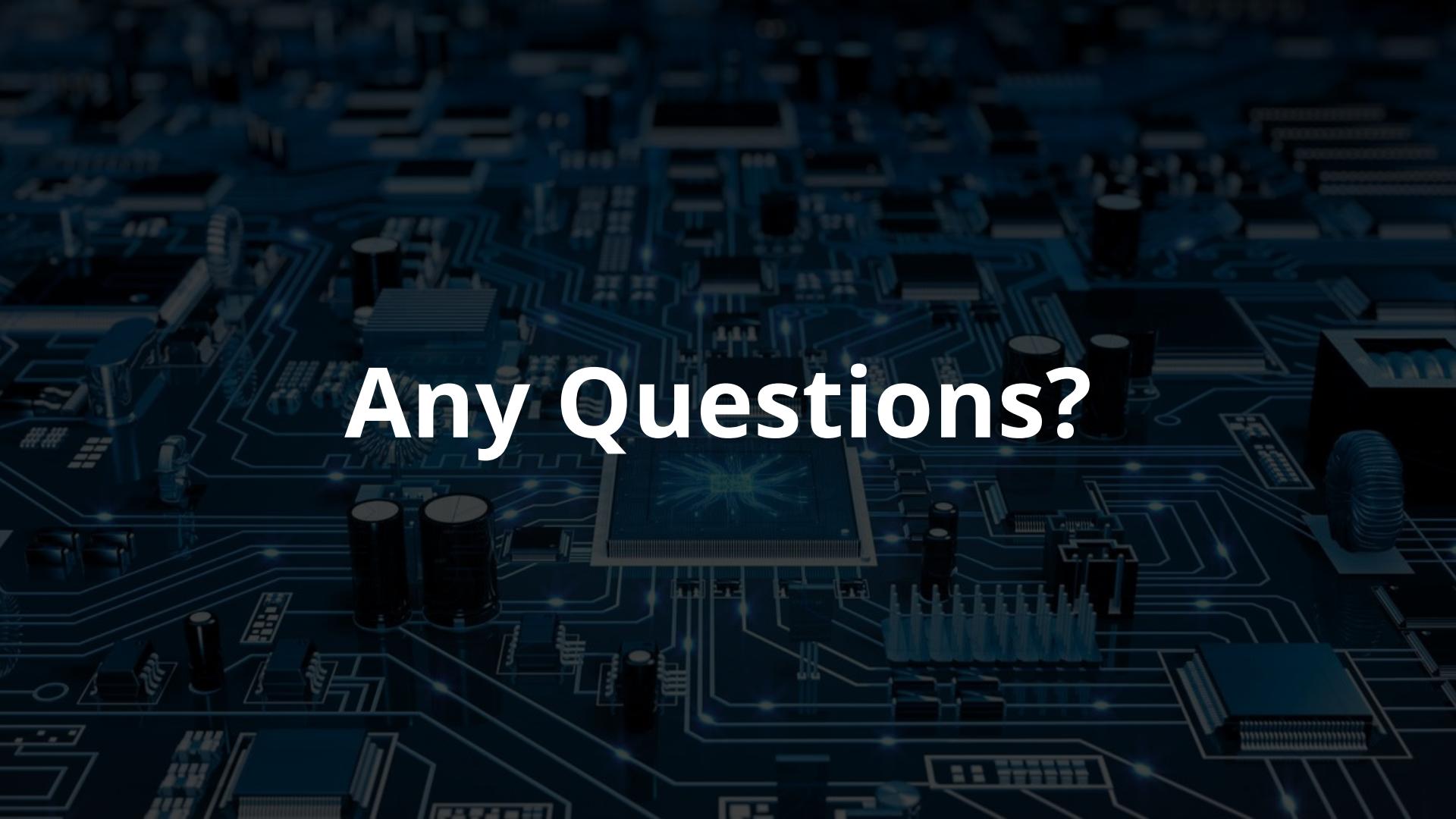
Step 3: Multiply the length and width to find area

Step 4: Shows you the result

Program

A computer completes this task in the **SAME** way!

This step by step approach is formally known as **pseudocode!!**

The background of the image is a detailed, high-resolution photograph of a printed circuit board (PCB). The board is densely populated with various electronic components, including integrated circuits, resistors, capacitors, and connectors. The colors are primarily shades of blue, black, and grey, giving it a technical and futuristic appearance.

Any Questions?



Thank you