Exercise Series 1

■ **Exercise 1:**

- List the major components of a computer's architecture and briefly explain their functions (CPU, RAM, ROM, motherboard, power supply, etc.).

■ **Exercise 2:**

- Categorize the following devices as input, output, or both:
    - Keyboard
    - Mouse
    - Monitor
    - Printer
    - Touchscreen
    - Scanner
- Explain how a touchscreen can function as both an input and output device.

■ **Exercise 3:**

- Explain the differences between RAM (Random Access Memory) and ROM (Read-Only Memory). Provide two examples of where each is used in a computer system.

■ **Exercise 4:**

- Convert the following decimal numbers to binary:
    - 25
    - 78
    - 125

■ **Exercise 5:**

- Convert the binary number 1011010 to:
    - Hexadecimal
    - Octal

■ **Exercise 6 :**

- Convert the following decimal numbers to hexadecimal:
    - 255
    - 500
    - 1023

■ **Exercise 7:**

- Represent the following negative decimal numbers using 8-bit two's complement notation:

  - -5
  - -18
  - -35

■ **Exercise 8:**

- Convert the decimal number 12.625 to binary.

■ **Exercise 9:**

- Add the binary numbers 1101 and 1011.
- Multiply the binary numbers 110 and 101.
- Subtraction the $(1110101)_2 - (101111)_2$

■ **Exercise 10:**

Convert numbers A and B to Octal and Hexadecimal

$A = (111010101011110111101001110)_2$

$B = (000000110101001001000100011)_2$