

Lecture 1.1: Problem Set

Part 1: Multiple Choice (Single Answer)

1. Which of the following is NOT a hardware component?

- a) CPU
- b) Operating System
- c) Monitor
- d) Keyboard

Answer: b) Operating System

2. The CPU speed is measured in:

- a) Bytes
- b) Megahertz (MHz)
- c) Volts
- d) Bits per second

Answer: b) Megahertz (MHz)

3. Which component is considered the "brain" of the computer?

- a) Memory (RAM)
- b) Hard Disk
- c) Central Processing Unit (CPU)
- d) Power Supply

Answer: c) Central Processing Unit (CPU)



4. A program written in a high-level language is called:

- a) Machine code
- b) An assembler
- c) Source code
- d) System software

Answer: c) Source code

5. Which software manages and controls a computer's activities?

- a) Word Processor
- b) Web Browser
- c) Operating System
- d) Compiler

Answer: c) Operating System

6. Which of the following is a volatile memory?

- a) Hard Disk
- b) USB Flash Drive
- c) RAM
- d) CD-ROM

Answer: c) RAM

7. What is the function of a compiler?

- a) To execute the program
- b) To manage memory
- c) To translate source code into machine code
- d) To provide input to the computer

Answer: c) To translate source code into machine code

8. Which language uses binary code for instructions?

- a) High-Level Language
- b) Assembly Language
- c) Machine Language
- d) English

Answer: c) Machine Language

Part 2: True or False

1. Software comprises the visible, physical elements of the computer.

- True
- False

Answer: False

2. Without an operating system, application programs can run directly on the hardware.

- True
- False

Answer: False

3. Storage devices are non-volatile, meaning they retain data even when the power is off.

- True
- False

Answer: True

4. An assembler is used to convert high-level language into machine code.

- True
- False

Answer: False

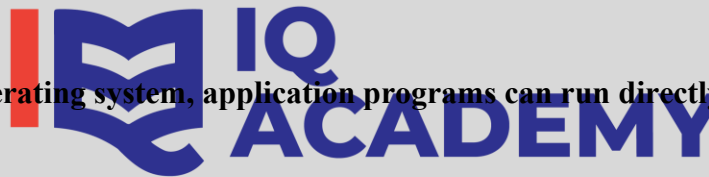
5. Input devices are used to display results from the computer.

- True
- False

Answer: False

6. The operating system is the first program to load when you turn on your computer.

- True



- () False

Answer: True

7. A byte typically holds 8 bits.

- () True
- () False

Answer: True

8. High-level languages are written in binary code.

- () True
- () False

Answer: False

Part 3: Definitions

1. Define: Hardware

Answer: The physical parts of a computer.

2. Define: Software

Answer: Instructions for the computer.

3. Define: CPU

Answer: The brain of the computer.

4. Define: Volatile Memory

Answer: Memory that is erased when power is off.

5. Define: Compiler

Answer: A tool that turns code into machine language.

6. Define: Operating System (OS)

Answer: Software that manages the computer.

7. Define: Input Device

Answer: A tool to put data into a computer.

8. Define: Source Code

Answer: Code written by a programmer.

Part 4: Short Answer & Fill-in-the-Blank

1. List three examples of each:

- **Input Devices:** Keyboard, Mouse, Scanner
- **Output Devices:** Monitor, Printer, Speakers
- **Storage Devices:** Hard Drive, USB, SSD

2. Why must programs and data be brought into memory (RAM) before execution?

Answer: The CPU can only use data from RAM.

3. Complete the analogy: Assembler : Assembly Language :: Compiler : _____

Answer: High-Level Language

4. What is the key difference between system software and application software?

Answer: System software runs the computer. Application software helps the user.

5. What does this mean: $\text{area} = 5 * 5 * 3.1415$;

Answer: It calculates the area of a circle.

Part 5: Matching

Match the term with its description.

1. **Machine Language** - C. Instructions in binary code
2. **Application Software** - E. Software for user tasks
3. **Hardware** - B. The physical parts
4. **Operating System** - A. Manages computer activities
5. **Compiler** - D. Translates source code

Answers: 1-C, 2-E, 3-B, 4-A, 5-D