PROGRAMMING IN JAVA

Assignment 01

TYPE OF QUESTION: MCQ

Number of questions: 10

Total marks**: 10 × 1 = 10**

QUESTION 1:

Which of the following is true regarding how Java handles code execution?

      a. Java uses only interpreter.

      b. Java uses only compiler.

      c. Java uses both interpreter and compiler.

      d. None of the above.

Correct Answer: c

      c. Java uses both interpreter and compiler.

Detailed Solution:

Creating a .class file from .java using the javac command is a compilation task, whereas execution of a .class file using java is the process of interpretation.

QUESTION 2:

A Java file with extension '.class' contains:

    a. **Java source code**

    b. **HTML tags**

    c. **Java Byte code**

    d. **A program file written in Java programming language**

Correct Answer: c

    c. **Java Byte code**

Detailed Solution:

A .class file is a compiled version of the .java file in byte code. It is a kind of object code with the JVM (Java Virtual Machine) as the target machine.

QUESTION 3:

Which of the following is NOT an object-oriented programming paradigm?

      a. **Encapsulation**

      b. **Inheritance**

      c. **Polymorphism**

      d. **Dynamic memory allocation**

Correct Answer: d

      d. **Dynamic memory allocation**

Detailed Solution:

Encapsulation, Inheritance, and Polymorphism are core paradigms. Dynamic memory allocation is a memory allocation strategy and not a programming paradigm.

QUESTION 4:

What is the correct sequence of steps to execute a Java program?

      a. Run → Edit → Compile

      b. Edit → Run → Compile

      c. Compile → Edit → Run

      d. Edit → Compile → Run

Correct Answer: d

      d. Edit → Compile → Run

Detailed Solution:

The Java development process involves writing code (Edit), converting it to bytecode (Compile), and then executing it on the JVM (Run).

QUESTION 5:

Which program is used to compile Java source code into bytecode?

> a. javap
>
> b. javac
>
> c. java
>
> d. javad

Correct Answer: b

> b. javac

Detailed Solution:

The JDK includes a tool called 'javac' that compiles from Java source code to a target of Java bytecodes. The program 'java' is used to execute Java bytecode.

QUESTION 6:

In Java, what is the role of the public static void main(String[] args) method?

    a. Initialization method

    b. Execution entry point

    c. Constructor

    d. Destructor

Correct Answer: b

    b. Execution entry point

Detailed Solution:

The public static void main(String[] args) method is the entry point for the execution of a Java program.

QUESTION 7:

Which of the following is not a feature of Java?

    a. **Platform Independence**

    b. **Object-Oriented Programming**

    c. **Supports Explicit Pointers**

    d. **Supports Polymorphism**

Correct Answer: c

    c. **Supports Explicit Pointers**

Detailed Solution:

Java is platform-independent, object-oriented, and secure. It does not support explicit pointers, as they can lead to memory management issues and compromise security.

QUESTION 8:

What is the primary purpose of the Java Virtual Machine (JVM) in the Java programming language?

    a. **Graphical User Interface**

    b. **Platform independence**

    c. **Code Debugging**

    d. **Game Engine**

Correct Answer: b

    b. **Platform independence**

Detailed Solution:

The Java Virtual Machine (JVM) enables platform independence by interpreting Java bytecode, allowing Java programs to run on any device with a compatible JVM.

QUESTION 9:

Consider the following program.

```java
public class Question {
    public static void main(String[] args) {
        int x = 5;
        x *= (2 + 8);
        System.out.println(x);
    }
}
```

What is the output of the above code?

     a. 50

     b. 10

     c. Compiler error

     d. 5

Correct Answer: a

     a. 50

Detailed Solution:

Here, x *= (2 + 8) is equivalent to x = x * (2 + 8), which results in x = x * 10. Therefore, x = 5 * 10 => x = 50.

QUESTION 10:

Consider the following program.

```java
class NPTEL {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

What is the output of the above code?

    a. **Hello, World!**

    b. **HelloWorld!**

    c. **Compilation Error**

    d. **Runtime Error**

Correct Answer: a

    a. **Hello, World!**

Detailed Solution:

This is the standard syntax for a Java program to print the string "Hello, World!" to the console.