



PROGRAMMING IN JAVA

Assignment 02

TYPE OF QUESTION: MCQ

Number of questions: 10

Total marks: $10 \times 1 = 10$

QUESTION 1:

How do you read a line of text from the console using the Scanner class in Java?

- a. `scanner.readLine()`
- b. `scanner.nextLine()`
- c. `scanner.getLine()`
- d. `scanner.fetchLine()`

Correct Answer: b

- b. `scanner.nextLine()`

Detailed Solution:

The `nextLine()` method of the Scanner class reads a line of text from the console. Refer to Lecture 10 for more details.

QUESTION 2:

What will be the output of the following Java program?

```
public class VarPrint {  
    int x = 30;  
    static int y = 20;  
  
    public static void main(String[] args) {  
        VarPrint t1 = new VarPrint();  
        t1.x = 99;  
        t1.y = 88;  
        int z1 = t1.x + t1.y;  
        VarPrint t2 = new VarPrint();  
        System.out.println(t2.x + " " + t2.y + " " + z1);  
    }  
}
```

- a. 30 99 178
- b. 30 88 129
- c. 30 99 187
- d. 30 88 187

Correct Answer: d

- d. 30 88 187

Detailed Solution:

If you perform any change for instance variable these changes won't be reflected for the remaining objects. Because for every object a separate copy of instance variable will be there. But if you do any change to the static variable, that change will be reflected for all objects because a static instance maintains a single copy in memory.

Please refer to chapter 3 of book Joy With Java for a more detailed explanation.

QUESTION 3:

What will be the output of the following Java program?

```
public class ArgumenTest {  
    public static void main(String[] args) {  
        Test t = new Test();  
        t.start();  
    }  
  
    static class Test {  
        void start() {  
            int a = 4;  
            int b = 5;  
            System.out.print(" " + 8 + 3 + " ");  
            System.out.print(a + b);  
            System.out.print(" " + a + b + " ");  
            System.out.print( a + b + " ");  
            System.out.print(foo() + a + b + " ");  
            System.out.println(a + b + foo());  
        }  
  
        String foo() {  
            return "foo";  
        }  
    }  
}
```

- a. 9 7 7 foo34 34foo
- b. 839 45foo45 9foo
- c. 839 459foo45 9foo
- d. 9 7 7 foo 7 7foo

Correct Answer: c

- c. 839 459foo45 9foo

Detailed Solution:

Here, print() methods internally converts the data in its argument into a String object and then print the composition. Here, + is the concatenation of different String representation.

Please refer to chapter 3 of book Joy With Java for a more detailed explanation.



QUESTION 4:

What is encapsulation in object-oriented programming?

- a. Hiding implementation details and exposing only functionality
- b. The process of creating multiple objects in a program
- c. Writing multiple methods in a single class
- d. Using the this keyword to reference an object

Correct Answer: a

- a. Hiding implementation details and exposing only functionality

Detailed Solution:

Please refer to chapter 3 of book Joy With Java for a more detailed explanation.

Encapsulation is one of the fundamental principles of object-oriented programming. It involves bundling the data (variables) and the methods (functions) that operate on the data into a single unit, typically a class. By making certain data private and providing public methods to access or modify it, encapsulation helps hide implementation details from the outside world while exposing only the required functionality. This improves code modularity, security, and maintainability.

QUESTION 5:

Consider the following code snippet

```
class NPTEL_W2 {  
    int x;  
  
    NPTEL_W2(int x) {  
        this.x = x+1;  
    }  
  
    void printX() {  
        System.out.println(this.x);  
    }  
  
    public static void main(String[] args) {  
        NPTEL_W2 obj = new NPTEL_W2(100);  
        obj.printX();  
    }  
}
```

What will be the output of the code given above?

- a. 0
- b. 101
- c. 100
- d. Runtime error

Correct Answer: b

- b. 101

Detailed Solution:

The constructor `NPTEL_W2 (int x)` initializes the instance variable `x` with the value passed as an argument. The method `printX()` prints the value of `x`, which is `101`. Refer to Lecture 7 for more details.



QUESTION 6:

What does the `this` keyword in Java help to achieve?

- a. Avoiding name space collision between instance variables and method parameters
- b. Overloading methods in a class
- c. Accessing private methods in another class
- d. Creating multiple objects in a program

Correct Answer: a

- a. Avoiding name space collision between instance variables and method parameters

Detailed Solution:

The *this* keyword is used to refer to the current instance of a class. It is commonly used to resolve ambiguity when instance variables and method parameters have the same name. For example:

```
class Example {  
    int value;  
  
    Example(int value) {  
        this.value = value; // Resolves name collision by referring to  
        the instance variable  
    }  
}
```

Here, `this.value` refers to the instance variable, while `value` refers to the parameter of the constructor.

This avoids confusion and ensures the proper assignment of values.

Please refer book Joy with Java Chapter 3 for more detailed explanation.



QUESTION 7:

Which method is used as the starting point of execution in a Java program?

- a. init method
- b. start method
- c. main method
- d. run method

Correct Answer: c

- c. main method

Detailed Solution:

You are encouraged to review the role of program execution flow in Java on your own.

Note: Please refer to the book Joy with Java Chapter 3 for more detailed explanation.



QUESTION 8:

Which of the following is used to display output in Java?

- a. input
- b. display
- c. print
- d. System

Correct Answer: c

- c. print

Detailed Solution:

The print method is used to display output on the screen in Java.

It is available through the System.out object.

You should practice identifying commonly used output statements.

Note: Please refer to the book Joy with Java Chapter 3 for more detailed explanation.



QUESTION 9:

Which symbol is used to end a statement in Java?

- a. :
- b. .
- c. ;
- d. ,

Correct Answer: c

- c. ;

Detailed Solution:

In Java, every statement must end with a semicolon.
It tells the compiler that the statement is complete.
Revise Java syntax rules carefully.
Refer to Joy with Java Chapter 2 for clarification.



QUESTION 10:

Which of the following is a valid Java keyword?

- a. number
- b. class
- c. include
- d. define

Correct Answer: b

- b. class

Detailed Solution:

The class keyword is used to define a class in Java.
Java keywords have predefined meanings.
Students should memorize basic Java keywords.

Note: Please refer to chapter 3 of book Joy With Java for a more detailed explanation.
