



PROGRAMMING IN JAVA

Assignment 12

TYPE OF QUESTION: MCQ

Number of questions: 10

Total marks: $10 \times 1 = 10$

QUESTION 1:

Execution of the following SQL command

```
SELECT * FROM myTable
```

using JDBC program will return a ResultSet object. This object is:

- a. Same as the myTable.
- b. All records in verbatim from the table.
- c. All records in verbatim from the table but those records with null values.
- d. All records in verbatim from the table but those records are not with null values.

Correct Answer:

- b. All records in verbatim from the table.

Detailed Solution:

When executing an SQL SELECT query using JDBC, the result is returned as a ResultSet object. This ResultSet object contains all the records (rows) returned by the SELECT query from the specified table (myTable in this case), without any filtering based on null values. Therefore, option b is correct.



QUESTION 2:

Which of the following method is used to set a frame, f with size 300 × 200 pixels?

```
JFrame f = new JFrame();
```

- a. f.setSize(300, 200);
- b. f.setSize(200, 300);
- c. f.paint(300, 200);
- d. f.setVisible(300, 200);

Correct Answer:

- a. f.setSize(300, 200);

Detailed Solution:

The method `setSize(int width, int height)` is used to set the size of a `JFrame` (or any component) in Java Swing. Therefore, option a is the correct answer to set a `JFrame` named `f` with size 300 × 200 pixels.



QUESTION 3:

Consider the following program:

```
public class Question {  
    public static void main(String[] args) {  
  
        String str = "NPTEL - Programming in JAVA - JULY 2024";  
  
        System.out.println(str.length());  
    }  
}
```

- a. 38
- b. 39
- c. 40
- d. 41

Correct Answer:

- b. 39

Detailed Solution:

The provided Java program calculates and prints the length of the string `str`, which contains the text "NPTEL - Programming in JAVA - JULY 2024".

The output of this program will be: 39

This is because the string "NPTEL - Programming in JAVA - JULY 2024" consists of 39 characters, including spaces and hyphens.



QUESTION 4:

What is the output of the following program?

```
public class Test {
    public static void aMethod() throws Exception {
        try {
            throw new Exception();
        } finally {
            System.out.print("finally ");
        }
    }

    public static void main(String args[]) {
        try {
            aMethod();
        } catch (Exception e) {
            System.out.print("exception ");
        }
        System.out.print("finished ");
    }
}
```

- a. finally
- b. exception finished
- c. finally exception finished
- d. Compilation fails

Correct Answer:

- c. finally exception finished



Detailed Solution:

The program is syntactically correct and here for two try blocks, there is one catch block.

Here's the step-by-step explanation:

- i. The `main` method calls `aMethod()`, which throws an `Exception`.
- ii. Inside `aMethod()`, an `Exception` is thrown in the `try` block.
- iii. The `finally` block is always executed, regardless of whether an exception is thrown or not. In this case, it prints "finally".
- iv. Since `aMethod()` throws an `Exception`, control moves to the `catch` block in `main`.
- v. The `catch` block prints "exception".
- vi. After the `try-catch` block in `main`, "finished" is printed.
- vii. Therefore, the complete output is "finally exception finished".



QUESTION 5:

What is the output of the following program?

```
class Program {
    public static void main(String[] args) {
        int counter = 10;
        do {
            System.out.print(2 / counter);
            counter--;
        } while (counter > 2);
    }
}
```

- a. 00000012
- b. 00000000
- c. 10011001
- d. 12211221

Correct Answer:

- b. 00000000

Detailed Solution:

The provided program uses a do-while loop to iterate from counter = 10 down to counter = 3. During each iteration, it prints the result of 2 / counter.

1. counter = 10: 2 / 10 results in 0 (integer division).
2. counter = 9: 2 / 9 results in 0.
3. counter = 8: 2 / 8 results in 0.
4. counter = 7: 2 / 7 results in 0.
5. counter = 6: 2 / 6 results in 0.
6. counter = 5: 2 / 5 results in 0.
7. counter = 4: 2 / 4 results in 0.

When counter = 3: 8. 2 / 3 results in 0.

After counter becomes 2, the loop condition counter > 2 fails, and the loop terminates.
Therefore, the output of the program is 00000000.



QUESTION 6:

What should be the value of X and Y for the output of the below program to be 36?

```
public class Question {  
    public static void main(String[] args) {  
        int X = 4;  
        int Y = 5;  
        int sum = 0;  
        for (int i = 0; i < X; i++) {  
            for (int j = i; j < Y; j++) {  
                sum = sum + j;  
            }  
        }  
        System.out.print(sum);  
    }  
}
```

- a. X = 6 and Y = 5
- b. X = 2 and Y = 7
- c. X = 1 and Y = 10
- d. X = 4 and Y = 5

Correct Answer:

- d. X = 4 and Y = 5

Detailed Solution:

The following is the output of the program for different values of X and Y:

- a. when X = 6 and Y = 5 output is 40
- b. when X = 2 and Y = 7 output is 42
- c. when X = 1 and Y = 10 output is 45
- d. when X = 4 and Y = 5 output is 36



QUESTION 7:

Which of the following options correctly initializes the elements of the numbers array with values 1, 2, 3, 4, and 5?

```
public class NPTEL {
    public static void main(String[] args) {
        int[] numbers = new int[5];
        // #1 : Missing code block
        System.out.println("First element: " + numbers[0]);
    }
}
```

- a. numbers = {1, 2, 3, 4, 5};
- b. for (int i = 1; i < numbers.length; i++) {
 numbers[i] = i;
}
- c. numbers[] = {1, 2, 3, 4, 5};
- d. numbers = new int[]{1, 2, 3, 4, 5};

Correct Answer:

- a. numbers = new int[]{1, 2, 3, 4, 5};

Detailed Solution:

numbers = new int[]{1, 2, 3, 4, 5}; is the correct answer because it initializes the numbers array with values 1, 2, 3, 4, and 5 using array initializer syntax.



QUESTION 8:

Which of the following statements are correct and would NOT cause a compilation error?

- i. `float[] = new float(3);`
 - ii. `float f1[] = new float[];`
 - iii. `float[] f2 = new float[3];`
 - iv. `float f3[] = new float[3];`
 - v. `float f4[] = { 1.0f, 2.0f, 2.0f };`
 - vi. `float f5[] = new float[] { 1.0f, 2.0f, 3.0f};`
-
- a. iii, iv, v, vi
 - b. i, ii, iii, iv
 - c. ii, iii, v, vi
 - d. i, ii, iv, vi

Correct Answer:

- a. iii, iv, v, vi

Detailed Solution:

Option iii, iv, v and vi are syntactically correct for declaration of an array.



QUESTION 9:

What will be the output of this program?

```
public class NPTEL {  
    public static void main(String[] args) {  
        String str1 = "Hello";  
        String str2 = "Hello";  
        String str3 = new String("Hello");  
        System.out.print((str1 == str2) + " ");  
        System.out.print(str1 == str3);  
    }  
}
```

- a. true false
- b. false true
- c. true true
- d. false false

Correct Answer:

- a. true false

Detailed Solution:

`str1` and `str2` are string literals and will be interned to the same memory location, so `str1 == str2` will be true. However, `str3` is created using the `new` keyword, so it will be stored in a different memory location, leading `str1 == str3` to be false.



QUESTION 10:

What will be the output of this program?

```
public class NPTEL {
    public static void main(String[] args) {
        try {
            int num = 10 / 0;
            System.out.println(num);
        } catch (ArithmaticException e) {
            System.out.println("Arithmatic exception occurred");
        } finally {
            System.out.println("Finally block executed");
        }
    }
}
```

- a. Compilation ERROR
- b. "Finally block executed"
- c. "Arithmatic exception occurred
Finally block executed"
- d. Runtime ERROR

Correct Answer:

- c. "Arithmatic exception occurred
Finally block executed"

Detailed Solution:

The division by zero will throw an `ArithmaticException`, which will be caught in the `catch` block. Then, the `finally` block will be executed.