PROGRAMMING IN JAVA

Assignment - 07

TYPE OF QUESTION: MCQ

Number of questions: 10   Total marks**: 10 × 1 = 10**

QUESTION 1:

Consider the following code.

```java
import java.io.*;
class ReadFile {
    public static void main(String[] args) throws IOException {
        FileReader fr = new FileReader("NPTEL.txt");
        BufferedReader br = new BufferedReader(fr);
        System.out.println(br.readLine());
        br.close();
    }
}
```

Assume **NPTEL.txt** contains:

```
This is Programming in Java online course.
```

What will be the output if the program is executed?

    a. Hello, World!

    b. This is Programming in Java online course.

    c. IOException

    d. null

Correct Answer:

    b. This is Programming in Java online course.

Detailed Solution:

`BufferedReader` to read the first line from the file `NPTEL.txt`. Since the file contains "This is Programming in Java online course.", it is printed.

QUESTION 2:

Consider the following code.

```java
import java.io.*;

class RandomAccessFileExample {
    public static void main(String[] args) throws IOException {
     RandomAccessFile file = new RandomAccessFile("test.dat", "rw");
     file.writeInt(100);
     file.seek(0);
     System.out.println(file.readInt());
     file.close();
    }
}
```

What will be the output of the above code?

a. 0

b. Runtime Error

c. Compilation Error

d. 100

Correct Answer:

d. 100

Detailed Solution:

The program writes the integer `100` to the file `test.dat`. Using the `seek(0)` method, the file pointer is reset to the beginning, and the integer is read back and printed.

QUESTION 3:

Consider the following partially written code.

```java
File file = new File("file.txt");
if (_____) // Fill in the blanks
{
    System.out.println("File exists.");
} else
{
    System.out.println("File does not exist.");
}
```

Complete the code snippet with the appropriate code. Select your answer from the following choices.

    a. file.exists()

    b. file.isFile()

    c. file.fileExists()

    d. file.isAvailable()

Correct Answer:

    a. file.exists()

Detailed Solution:

The `exists()` method in the `File` class checks if a file or directory exists in the specified path.

QUESTION 4:

Consider the following code.

```java
import java.io.*;

class SequenceInputStreamExample {
    public static void main(String[] args) throws IOException {
        ByteArrayInputStream input1 = new
ByteArrayInputStream("123".getBytes());
        ByteArrayInputStream input2 = new
ByteArrayInputStream("ABC".getBytes());
        SequenceInputStream sequence = new
SequenceInputStream(input1, input2);

        int i;
        while ((i = sequence.read()) != -1) {
            System.out.print((char) i);
        }
    }
}
```

What will be the output of the above code?

   a. **123ABC**

   b. **ABC123**

   c. **Compilation Error**

   d. **Runtime Error**

Correct Answer:

   a. **123ABC**

Detailed Solution:

The `SequenceInputStream` combines `input1` and `input2` streams sequentially. It first reads the content of `input1` (123), followed by `input2` (ABC), resulting in `123ABC`.

QUESTION 5:

Consider the following code.

```
class Main {

  public static void main(String args[]) {
    final int i;
    i = 20;
    i = 30;
    System.out.println(i);
  }
}
```

What will be the output of the above code?

    a. **30**

    b. **Compiler Error**

    c. **Garbage value**

    d. **0**

Correct Answer:

    b. **Compiler Error**

Detailed Solution:

i is assigned a value twice. Final variables can be assigned values only one. Following is the compiler error "Main.java:5: error: variable i might already have been assigned".

QUESTION 6:

Which of these exception is thrown in cases when the file specified for writing is not found?

    a. IOException

    b. FileException

    c. FileNotFoundException

    d. FileInputException

Correct Answer:

    c. FileNotFoundException

Detailed Solution:

In cases when the file specified is not found, then FileNotFoundException is thrown by java run-time system, earlier versions of java used to throw IOException but after Java 2.0 they throw FileNotFoundException.

QUESTION 7:

Consider the following code.

```java
public class Calculator {
    int num = 100;

    public void calc(int num) {
        this.num = num * 10;
    }

    public void printNum() {
        System.out.println(num);
    }

    public static void main(String[] args) {
        Calculator obj = new Calculator();
        obj.calc(2);
        obj.printNum();
    }
}
```

What will be the output of the above code?

    a. **20**

    b. **100**

    c. **1000**

    d. **2**

Correct Answer:

    a. **20**

Detailed Solution:

Here the class instance variable name(num) is same as calc() method local variable name(num). So for referencing class instance variable from calc() method, this keyword is used. So in statement this.num = num * 10, num represents local variable of the method whose value is 2 and this.num represents class instance variable whose initial value is 100. Now in printNum() method, as it has no local variable whose name is same as class instance variable, so we can directly use num to reference instance variable, although this.num can be used.

QUESTION 8:

Consider the following code.

```java
import java.io.*;

public class W7 {
    public static void main(String[] args) {
        try {

            PrintWriter writer = new PrintWriter(System.out);

            writer.write(9 + 97);

            writer.close();
        } catch (Exception e) {
            System.out.println(e);
        }
    }
}
```

What will be the output of the above code?

   a. It will give compile-time error

   b. It will give run-time error

   c. j

   d. 106

Correct Answer:

   c. j

Detailed Solution:

The output of this program will be the character 'j' because the Unicode code point for 106 corresponds to 'j'.

QUESTION 9:

Consider the following code.

file.txt contain "This is Programming in Java online course." (without quotes)

```java
import java.io.File;

class FileSizeEample {
    public static void main(String[] args) {
        // Specify the file path
        String filePath = "file.txt";

        // Create a File object
        File file = new File(filePath);

        // Get the size of the file
        long fileSize = file.length();

        // Print the size of the file
        System.out.println(fileSize);
    }
}
```

What will be the output of the above code?

    a. **42**

    b. **35**

    c. **7**

    d. **0**

Correct Answer:

    a. **42**

Detailed Solution:

The length() method on the File object, which returns the size of the file in bytes.

QUESTION 10:

Consider the following code.

```java
import java.io.*;

class Chararrayinput {

  public static void main(String[] args) {
    String obj = "abcdefgh";
    int length = obj.length();
    char c[] = new char[length];
    obj.getChars(0, length, c, 0);
    CharArrayReader input1 = new CharArrayReader(c);
    CharArrayReader input2 = new CharArrayReader(c, 1, 4);
    int i, j;
    try {
      while ((i = input1.read()) == (j = input2.read())) {
        System.out.print((char) i);
      }
    } catch (IOException e) {
      e.printStackTrace();
    }
  }
}
```

What will be the output of the above code?

  a. abc

  b. abcd

  c. abcde

  d. None of the mentioned

Correct Answer:

  d. None of the mentioned

Detailed Solution:

No output is printed. CharArrayReader object input1 contains string "abcdefgh" whereas object input2 contains string "bcde", when while((i=input1.read())==(j=input2.read())) is executed the starting

character of each object is compared since they are unequal control comes out of loop and nothing is printed on the screen.