ASSESSMENT-6 (Fiserv)

Trainer: Sagar

1. **Batch1:**
   Participant's Name-

   Enter your answer

2. **Batch2:**
   Participant's Name-

   Rahul Chauhan Rahul.Chauhan@fiserv.com Batch2

3. What is the result of adding an ‘int’ and a ‘double’ value in Java? (1 Point)

   - ◯ An ‘int’
   - ◯ A ‘double’
   - ◯ Compilation/Syntax error
   - ◯ Runtime error/exception

4. What is the value of z after the following statement in Java: int z = 7; z /= 2;?
   (1 Point)

- ○ 3.5
- ◉ 3
- ○ 2
- ○ 7

5. What does the ternary operator ? : in Java do (1 Point)

- ○ It calculates the remainder of a division operation.
- ○ It assigns a value to a variable.
- ◉ It performs a conditional test and returns one of two values.
- ○ It increments a variable by 1.

6. What is the output of the following Java code?

```
int i = 1;

while (true) {
                if (i % 3 == 0) {
                        break;
        }
                System.out.print(i + " ");
        i++;
        }
```

(1 Point)

- ○ 1 2 3

- [x] 1 2
- [ ] This code will result in an infinite loop.
- [ ] 1

7. Consider the following Java class:

```
public class Student {

    private int studentId;

    private String studentName;



    public Student(int id, String name) {

        studentId = id;

        studentName = name;

    }



    public void displayInfo() {

        System.out.println("Student ID: " + studentId);

        System.out.println("Student Name: " + studentName);

    }

}
```

How can you access the studentId and studentName instance variables from outside the Student class?

(1 Point)

- ○ You cannot access them from outside the class.
- ○ By creating a new instance of the Student class and using the dot notation.
- ◉ By using a getter method to retrieve their values.
- ○ By changing the access modifier to public.

8. In Java, which keyword is used to access a class variable from outside the class? (1 Point)
   - ○ static
   - ○ final
   - ○ this
   - ◉ super

9. Consider the following Java code snippet:

```
public class MyClass {

    public static void main(String[] args) {

        System.out.println(countDigits(12345));

    }



    public static int countDigits(int number) {

        if (number == 0) {

            return 1;

        } else {
```

```
            return 1 + countDigits(number / 10);
        }
    }
}
```

What is the output of the main method?

(1 Point)

- ○ 0
- ○ 1
- ◉ 5
- ○ 15

10. In Java, what is method abstraction? (1 Point)

- ○ A method that is declared but not implemented.
- ○ A method that is private and cannot be accessed from outside the class.
- ◉ A method that is declared with the abstract keyword and lacks a method body.
- ○ A method that performs a specific mathematical operation.

11. In Java, which keyword is used to invoke one constructor from another constructor within the same class?
(1 Point)

- ◉ A.this

- B. super
- C. constructor
- D. extends

12. In Java, when is a default (no-argument) constructor automatically provided by the compiler for a class? (1 Point)

- When there are no instance variables in the class.
- When there are no methods in the class.
- **When no constructors are defined in the class.**
- When the class is marked as final.

13. Consider the following Java classes:

```
class Animal {
    void eat() {
        System.out.println("Animal is eating");
    }
}

class Dog extends Animal {
    void eat() {
        System.out.println("Dog is eating");
    }
```

```
}


public class Test {
    public static void main(String[] args) {
        Animal animal = new Dog();
        animal.eat();
    }
}
```

What is the output of the main method?

(1 Point)

- ○ Animal is eating
- ◉ Dog is eating
- ○ Compilation error
- ○ Runtime error

14. In Java, when a subclass method attempts to override a superclass method, which of the following conditions must be satisfied? (1 Point)

- ○ The subclass method must have a different name from the superclass method.
- ○ The subclass method must have the same name, return type, and parameters as the superclass method.
- ◉ The subclass method must have the same name and return type as the superclass method.

◯ The subclass method must have a different access modifier than the superclass method.

15. Consider the following Java classes:

```
class Animal {

    void makeSound() {

        System.out.println("Animal makes a sound");

    }

}


class Cat extends Animal {

    void makeSound() {

        System.out.println("Cat meows");

    }

}


class Dog extends Animal {

    void makeSound() {

        System.out.println("Dog barks");

    }

}


public class Test {
```

```
    public static void main(String[] args) {
        Animal[] animals = { new Cat(), new Dog() };
        for (Animal animal : animals) {
            animal.makeSound();
        }
    }
}
```

What is the output of the **main** method?

(1 Point)

- ○ Animal makes a sound Animal makes a sound
- ◉ Cat meows Dog barks
- ○ Compilation error
- ○ Runtime error

16. Write down the Implementation classes of Map Interface (1 Point)

Hashmap, Linkedhasmap, Sortedmap, Treemap

17. Write a Sample program to convert the LinkedList to HashSet, Print both the LinkedList and HashSet values (1 Point)

```
package Assessment5_0904_Self;

import java.util.HashSet;
import java.util.LinkedList;

public class Question8 {
    public static void main(String[] args) {
        LinkedList l1 = new LinkedList();
        l1.add(true);
        l1.add("Indore");
        l1.add(25);
        l1.add(false);
        System.out.println("LinkedList - " +l1);
        HashSet h1 = new HashSet(l1);
        System.out.println("HashSet - "+h1);
    }
}
```

18. Write a Program to implement the Descending of Integers data using Comparator Interface.
(1 Point)

Enter your answer

19. Explain about finally keyword in Java?
_____ (1 Point)

Finally keyword can contain some line of code to do some clean-up activities like closing window, deleting file, closing browser, clearing cache etc. This line of code executes even if the program terminates and throw an exception.

20. Write a program to illustrate the String is immutable and StringBuffer is mutable
(1 Point)

```
public class Assessment6_0929 {
    public static void main(String[] args) {
        String s1 = new String("Hello");
        String s2 = new String("World");
        s1.concat(s2);
        System.out.println(s1);



        StringBuffer sb1 = new StringBuffer("Hello");
        StringBuffer sb2 = new StringBuffer("World");
        sb1.append(sb2);
        System.out.println(sb1);
    }
}
```

21. What is the Difference between ArrayList and LinkedList (1 Point)

ArrayList -
1. If we have to retrieve data very frequently then ArrayList is better option
2. Should not use if we want to insert or delete operations frequenty
3. It can grow or reduce as per data during run time

LinkedList -
1. best choice if we want to perform insert and delete operations frequently
2. not a good choice if we want to retrieve data frequently
3. default capacity is 0 for a linked list

22. What is the Difference between List and Set
_____ (1 Point)

List - duplication are allowed and insertion order is preserved
Set - duplication are not allowed and insertion order is not preserved

23. What are the differences between Enumerator, Iterator and List Iterator
_____ (1 Point)

Enumerator -
1. We can use the Enumeration one by one from the old collection objects so, it is not the universal cursor.
2. This is single direction cursor as we can move only towards forward direction.
3. We can get only read access and we can't perform remove operation

Iterator-
1. By using iterator we can perform both read and remove operations.
2. We can't perform addition of new objects.
2. We can apply the iterator concept on any collection class, hence it is universal cursor.
3. This is also a single direction cursor as we can move only towards forward direction.

List Iterator-
1. We can perform replacement or addition of new objects in addition to the read and remove operations.
2. We can move forward or backward in both directions, that's why List Iterator is

24. Write a program to remove the duplicate words in a given String using HashMap And Count the number of times each repeated/duplicated words (1 Point)

Enter your answer

25. Which Implementation of Iterator can traverse a collection back and forth? (1 Point)

- ○ Iterator
- ◉ ListIterator
- ○ SetIterator
- ○ MapIterator

26. Please Explain Difference between InputStream and Output Stream w.r.t File Handling (1 Point)

Enter your answer

27. Please Write Sample Code Snippet to Insert the Data into Database using JDBC (1 Point)

```
public class Assessment6_0929 {


    public static void main(String[] args) {



        String dbURL="jdbc:mysql://localhost:3306/fi_serv_training";
        String dbUSERNAME = "root";
        String dbPASSWORD = "P@ssword";
        String sql_query="insert into Employee values(1,'Employee1',10000,'Pune'),
        (2,'Employee2',20000,'Indore')";


        Connection con = DriverManager.getConnection(dbURL, dbUSERNAME,
dbPASSWORD);
        Statement st = con.createStatement()



        int i = st.executeUpdate(sql_query);
        System.out.println("Insertion is completed for "+i+" rows");
        con.close();
}
`
```

28. Please Write Sample Code snippet with Lambda Expressions (1 Point)

Let say there is a method -
public void add (a,b){
SOUT (a+b)
}

THEN Lambda expression can be like this -
(a, b) -> SOUT(a+b);

29. Please Write Sample Code snippet with Java Stream APIs (1 Point)

Enter your answer

30. List down the Java8 Features (1 Point)

1. Lambda Expressions
2. Functional Interfaces
3. Default methods in Interfaces
4. Static methods in interfaces
5. Predicate (It's a Pre-defined functional interface)
6. Function (It's a Pre-defined functional interface)
7. Consumer (It's a Pre-defined functional interface)
8. :: (Method Reference & Constructor Reference)
9. Stream API (Bulk operations on collection objects)

31. Please Write the Code Snippet to Read the Data from XML file (1 Point)

```
package xmlHandling;


import org.w3c.dom.Document;
import org.w3c.dom.Element;
import org.w3c.dom.Node;
import org.w3c.dom.NodeList;

import javax.xml.parsers.DocumentBuilder;
import javax.xml.parsers.DocumentBuilderFactory;
import java.io.FileInputStream;

public class ReadXML_DOM {
    public static void main(String[] args) throws  Exception{

        FileInputStream fis = new
FileInputStream("C:\\AutomationCatalogue\\Projects\\AutomationCatalogue_FiSer
v_Batch2\\Files\\Students.xml");
        DocumentBuilderFactory factory = DocumentBuilderFactory.newInstance();
        DocumentBuilder builder = factory.newDocumentBuilder();
        Document doc = builder.parse(fis);

        Element rootElement = doc.getDocumentElement();
        String str = rootElement.getNodeName();
        System.out.println(str);

        NodeList nList = doc.getElementsByTagName("student");
        for(int i=0;i<nList.getLength();i++){
            Node node = nList.item(i);
            System.out.println(node.getNodeName());

            if(node.getNodeType() == Node.ELEMENT_NODE){
                Element element = (Element)node;
                String name
=element.getElementsByTagName("name").item(0).getTextContent();
                System.out.println(name);

                String email
=element.getElementsByTagName("email").item(0).getTextContent();
                System.out.println(email);

                String mobile
=element.getElementsByTagName("mobile").item(0).getTextContent();
                System.out.println(mobile);

                String address
=element.getElementsByTagName("address").item(0).getTextContent();
                System.out.println(address);
            }
```

32. Please Write Code snippet to explain Customized/Userdefined Exception (1 Point)

Enter your answer