FULL STACK DEVELOPMENT – WORKSHEET 2

Q1 to Q7 are multiple choice questions having one correct answer only.

Q1.Java method overloading implements the OOPS concept

A. Encapsulation

B. Inheritance

C. Polymorphism

D. Abstraction

ANS:- C. Polymorphism

Q2.Data members and member functions of a class are private by default.

A. True

B. False

C. Depend on code

D. None

ANS:- A. True

Q3.Which of the following functions can be inherited from the base class?

A. Constructor

B. Static

C. All

D. None

ANS:- D. None

Q4. Identify the feature, which is used to reduce the use of nested classes.

A. Binding

B. Abstraction

C. Inheritance

D. None

ANS:- C. Inheritance

Q5. Which concept of Java is achieved by combining methods and attributes into a class?

A. Encapsulation

B. Inheritance

C. Polymorphism

D. Abstraction

ANS:- A. Encapsulation

Q6.Which of the following declarations does not compile?

A. double num1, int num2 = 0;

B. int num1, num2;

C. int num1, num2 = 0;

D. int num1 = 0, num2 = 0;

ANS:- A. double num1, int num2 = 0;

Q7.Which of these interface must contain a unique element?

A. Set

B. List

C. Array

D. collection

ANS:- A. Set

Q8 to Q16 you have to find output and give explanation where needed.

Q8.Predict the output?

```
package main;
class T {
int t = 20;
}
class Main {
```

```
public static void main(String args[]) {
T t1 = new T();
System.out.println(t1.t);
}
}
```

A. 20

B. 0

C. COMPILE ERROR

ANS:- A. 20

Q9. What is the output of the below Java program?

```
//bingo.java file
public class Hello {
public static void main(String[] args) {
System.out.println("BINGO");
}
}
```

A. BINGO

B. bingo

C. 0

D. Compile Error

ANS:- D. Compile Error

Class name and java file should be same.

Q10.What will be the output of the following Java program?

```
class variable_scope {
public static void main(String args[]) {
int x;
x = 5; {
int y = 6;
System.out.print(x + " " + y);
```

```
}
System.out.println(x + " " + y);
}
}
```

A. Compilation Error

B. Runtime Error

C. 5 6 5 6

D. 5 6 5

ANS:- A. Compilation Error

Scope of y is inside the block, outside the block y cannot be accessed.

Q11.What will be the output of the following Java code?

```
class String_demo {
public static void main(String args[]) {
char chars[] = {'a', 'b', 'c'};
String s = new String(chars);
System.out.println(s);
}
}
```

A. abc

B. a

C. b

D. c

ANS:- A. abc

String s initialises with values of chars, So the output is abc.

Q12. What will be the output of the following Java program?

```
final class A {
int i;
}
class B extends A {
```

```
int j;
System.out.println(j + " " + i);
}
class inheritance {
public static void main(String args[]) {
B obj = new B();
obj.display();
}
}
```

A. 2 2

B. 3 3

C. Runtime Error

D. Compilation Error

ANS:- D. Compilation Error

Method display() is undefined for class B

Q13.What is output of following program

```
public class Test {
public int getData() //getdata() 1 {
return 0; }
public long getData() //getdata 2 {
return 1;
}
public static void main(String[] args) {
Test obj = new Test();
System.out.println(obj.getData());
} }
```

A. 1

B. 0

C. Runtime Error

D. Compilation Error

ANS:- D. Compilation Error

In method overloading argument list must be different.

Q14. What is the output of the following program?

```
public class Test{
static int start = 2;
final int end;
public Test(int x) {
x = 4;
end = x;
}
public void fly(int distance) {
System.out.println(end-start+" ");
System.out.println(distance);
}
public static void main(String []args){
new Test(10).fly(5);
}
}
```

A. [2 5]

B. [0 0]

C. [5 2]

D. [0 2]

ANS:- A. [2 5]

Q15.What is the output of the following program?

```
String john = "john";
String jon = new String(john);
System.out.println((john==jon) + " "+ (john.equals(jon)));
```

A. true true

B. true false

C. false true

D. false false

ANS:- C. false true

Since objects are not same it returns false, equals() checks the value and return true.

Q16. Given that Student is a class, how many reference variables and objects are created by the following code?

Student studentName, studentId;

studentName = new Student();

Student stud_class = new Student();

A. Three reference variables and two objects are created.

B. Two reference variables and two objects are created.

C. One reference variable and two objects are created.

D. Three reference variables and three objects are created.

ANS:- A. Three reference variables and two objects are created.

studentName, studentId,stud_class are refrence variable, and those with new keyword are objects that is studentName , stud_class.

Q17 to Q25 are simple java programs to write

Q17. Write a java program to check even or odd number

ANS:-

```
import java.util.Scanner;

public class EvenOrOdd {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter a number: ");
		int a = sc.nextInt();
		if(a%2==0) {
			System.out.println("Number is Even");
		}
		else {
			System.out.println("Number is Odd");
		}
	}
}
```

Q18. Write a java program to find average of two numbers

ANS:-

```
import java.util.Scanner;

public class Average {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter two numbers: ");
		float a = sc.nextFloat();
		float b = sc.nextFloat();
		float avg = (a+b)/2;
		System.out.println(avg);

	}
}
```

Q19. Write a java program to swap two numbers

ANS:-

```
import java.util.Scanner;

public class Swap {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter two numbers: ");
		int a = sc.nextInt();
		int b = sc.nextInt();
		System.out.println("Values before swapping:"+a + " "+ b);
		a=a+b;
		b=a-b;
		a=a-b;
		System.out.println("Values after swapping:"+a + " " + b);
	}
}
```

Q20. Write a java program to check whether a number is prime or not

ANS:-

```
import java.util.Scanner;

public class PrimeOrNot {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter a number: ");
		int n = sc.nextInt();
		int flag =0;
		for(int i=2; i<n; i++) {
```

```
                if(n%i==0) {
                        flag=1;
                        break;
                }
            }
            if(n==0 || n==1) {
                System.out.println("Number is niether prime nor
composit");
            }
            else if(flag==0) {
                System.out.println("Number is prime");
            }
            else {
                System.out.println("Number is not prime");
            }
        }
}
```

Q21. Write a java program to find table of n

ANS:-

```
import java.util.Scanner;

public class TableOfn {
      public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter a value: ");
            int a = sc.nextInt();
            int t;
            for(int i=1;i<=10;i++) {
                  t = a *i;
                  System.out.println(a + "*" + i + "=" + t);
            }
      }
}
```

Q22. Write a java program to find the largest of three numbers.

ANS:-

```
import java.util.Scanner;

public class LargestOfThree {
      public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter three numbers: ");
            int a = sc.nextInt();
            int b = sc.nextInt();
            int c = sc.nextInt();
            if(a>b) {
                  if(a>c) {
                        System.out.println(a + " is largest");
                  }
```

```
                else {
                        System.out.println(c + " is largest");
                }
        }
        else {
                if(b>c) {
                        System.out.println(b + " is largest");
                }
                else {
                        System.out.println(c +  " is largest");
                }
        }


    }
}
```

Q23. Write a java program to calculate Simple Interest

ANS:-

```
import java.util.Scanner;

public class SimpleInterest {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Principal: ");
        float p = sc.nextFloat();
        System.out.println("Rate: ");
        float r = sc.nextFloat();
        System.out.println("Time: ");
        float t = sc.nextFloat();
        float si = (p*r*t)/100;
        System.out.println("Simple Interest: " + si);
    }
}
```

Q24. Write a java program to calculate Area and perimeter of Rectangle

ANS:-

```
import java.util.Scanner;

public class Area {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the length of rectangle: ");
        int l = sc.nextInt();
        System.out.println("Enter the breadth of rectangle: ");
        int b = sc.nextInt();
        int area = l*b;
        int perimeter = 2*(l+b);
```

```
            System.out.println("Area: " + area);
            System.out.println("Perimeter: " + perimeter);

      }
}
```

Q25. Write a java program to check whether character is vowel or consonant.

ANS:-

```
import java.util.Scanner;

public class VowelOrConsonant {
      public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            char c = sc.next().charAt(0);
            if( c == 'a' || c == 'e' || c == 'i' || c == 'o' || c
=='u') {
                  System.out.println("The character is vowel");
            }
            else if(c == ' ') {
                  System.out.println("Invalid Character");
            }
            else{
                  System.out.println("The character is consonant");
            }
      }
}
```