

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. Polymorphism

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

A. True

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

A. Constructor

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

A. Inheritance

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

A. Encapsulation

Q6.Which of the following declarations does not compile?

A. double num1, int num2 = 0;

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

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

//This is a Java program that declares a class named "T" with a member variable "t" with a value of 20. It also declares a class named "Main" with a "main" method which creates an object "t1" of class "T" and prints the value of its member variable "t", which is 20. The output of this program would be "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

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

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

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. Compilation Error

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. Compilation Error

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]

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. false 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.

Q17 to Q25 are simple java programs to write.

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

```
import java.util.Scanner;  
  
public class Main {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.print("Enter a number: ");  
        int num = sc.nextInt();  
  
        if (num % 2 == 0) {  
            System.out.println(num + " is an even number.");  
        } else {  
            System.out.println(num + " is an odd number.");  
        }  
    }  
}
```

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

```
import java.util.Scanner;
```

```
public class Main {
```

```
    public static void main(String[] args) {
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.print("Enter first number: ");
```

```
        int num1 = sc.nextInt();
```

```
        System.out.print("Enter second number: ");
```

```
        int num2 = sc.nextInt();
```

```
        double average = (double)(num1 + num2) / 2;
```

```
        System.out.println("The average of " + num1 + " and " + num2 + " is " + average);
```

```
    }
```

```
}
```

Q19. Write a java program to swap two numbers

```
import java.util.Scanner;
```

```
public class Main {
```

```
    public static void main(String[] args) {
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.print("Enter first number: ");
```

```
        int num1 = sc.nextInt();
```

```
        System.out.print("Enter second number: ");
```

```
        int num2 = sc.nextInt();
```

```
        System.out.println("Before swapping: " + num1 + " " + num2);
```



```
int temp = num1;
```

```
num1 = num2;
```

```
num2 = temp;
```

```
System.out.println("After swapping: " + num1 + " " +  
num2);
```

```
    }  
}
```

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

```
import java.util.Scanner;
```

```
public class Main {
```

```
    public static void main(String[] args) {
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.print("Enter a number: ");
```

```
        int num = sc.nextInt();
```

```
        boolean isPrime = true;
```

```
        for (int i = 2; i <= num / 2; i++) {
```

```
            if (num % i == 0) {
```

```
                isPrime = false;
```

```
                break;
```

```
            }
```

```
        }
```

```
        if (isPrime) {
```

```
    System.out.println(num + " is a prime number");  
    } else {  
        System.out.println(num + " is not a prime number");  
    }  
    }  
}
```

Q21. Write a java program to find table of n

```
import java.util.Scanner;  
  
public class Table {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.print("Enter a number: ");  
        int n = sc.nextInt();  
        System.out.println("Table of " + n + ":");  
        for (int i = 1; i <= 10; i++) {  
            System.out.println(n + " x " + i + " = " + n * i);  
        }  
    }  
}
```

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

```
import java.util.Scanner;  
  
public class LargestNumber {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.print("Enter first number: ");
```

```
int num1 = sc.nextInt();

System.out.print("Enter second number: ");

int num2 = sc.nextInt();

System.out.print("Enter third number: ");

int num3 = sc.nextInt();

int largest = num1;

if (num2 > largest) {

    largest = num2;

}

if (num3 > largest) {

    largest = num3;

}

System.out.println("Largest number is: " + largest);

}

}
```

Q23. Write a java program to calculate Simple Interest

```
import java.util.Scanner;
```

```
public class SimpleInterest {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the Principal: ");

        float principal = sc.nextFloat();

        System.out.print("Enter the Rate of Interest: ");

        float rate = sc.nextFloat();

        System.out.print("Enter the Time: ");

        float time = sc.nextFloat();
```

```
float interest = (principal * rate * time) / 100;

System.out.println("Simple Interest is: " + interest);

}

}
```

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

```
import java.util.Scanner;
```

```
public class Rectangle {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the Length of Rectangle: ");
        float length = sc.nextFloat();
        System.out.print("Enter the Breadth of Rectangle: ");
        float breadth = sc.nextFloat();
        float area = length * breadth;
        float perimeter = 2 * (length + breadth);
        System.out.println("Area of Rectangle is: " + area);
        System.out.println("Perimeter of Rectangle is: " + perimeter);
    }
}
```

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

```
import java.util.Scanner;
```

```
public class VowelConsonant {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a character: ");
        char ch = sc.next().charAt(0);

        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
            ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U') {
            System.out.println(ch + " is a vowel");
        } else {
            System.out.println(ch + " is a consonant");
        }
    }
}
```

}

}

}