

## FULL STACK DEVELOPMENT – WORKSHEET 2

Q1. Java method overloading implements the OOPS concept

Ans: (C) Polymorphism

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

Ans: (B) False

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

Ans: (A) Constructor

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

Ans: (B) Abstraction

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

Ans: (A) Encapsulation

Q6. Which of the following declarations does not compile?

Ans: (A) `double num1, int num2 = 0;`

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

Ans: (A) Set

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);  
}  
}
```

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");  
    }  
}
```

Ans: (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);  
    }  
}
```

```
}
```

Ans: (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);
    }
}
```

Ans: (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();
    }
}
```

```
}
```

```
}
```

Ans: (D) 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());
}
}
```

Ans: (D) 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);
}
}

```

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)));

```

Ans: (C) 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();

```

Ans: (B) Two reference variables and two objects are created.

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

```

import java.util.Scanner;

public class VerifyEvenOdd {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

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

        int n = sc.nextInt();
    }
}

```

```
    if (n % 2 == 0) {  
        System.out.print("Even");  
    }else {  
        System.out.print("Odd");  
    }  
    sc.close();  
}  
}
```

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

Ans:

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

```
public class AverageCalculator {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
  
        System.out.print("Enter the first number: ");  
        double number1 = scanner.nextDouble();  
  
        System.out.print("Enter the second number: ");  
        double number2 = scanner.nextDouble();  
  
        double average = (number1 + number2) / 2.0;  
  
        System.out.println("The average of " + number1 + " and " + number2 + " is: " + average);  
    }  
}
```

```
        scanner.close();
    }
}
```

Q19. Write a java program to swap two numbers

Ans: import java.util.Scanner;

```
public class SwapNumbers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the first number: ");
        int number1 = scanner.nextInt();

        System.out.print("Enter the second number: ");
        int number2 = scanner.nextInt();

        System.out.println("Before swapping: ");
        System.out.println("First number: " + number1);
        System.out.println("Second number: " + number2);

        number1 = number1 + number2;
        number2 = number1 - number2;
        number1 = number1 - number2;

        System.out.println("After swapping: ");
        System.out.println("First number: " + number1);
        System.out.println("Second number: " + number2);
    }
}
```

```
        scanner.close();
    }
}
```

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

Ans: import java.util.Scanner;

```
public class CheckPrime {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter A Number: ");
        int n = sc.nextInt();

        int count = 0;
        //Count for checking factors of n
        for (int i = 1; i <= n; i++) {
            if (n % i == 0) {
                count++;
            }
        }

        if (count == 2) {
            System.out.print("Prime");
        }else {
            System.out.print("Not Prime");
        }
        sc.close();
    }
}
```



Q21. Write a java program to find table of n

Ans: import java.util.Scanner;

```
public class MultiplicationTable {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
  
        System.out.print("Enter a number to find its table: ");  
        int n = scanner.nextInt();  
  
        System.out.println("Multiplication table of " + n + ":");  
  
        for (int i = 1; i <= 10; i++) {  
            int result = n * i;  
            System.out.println(n + " x " + i + " = " + result);  
        }  
  
        scanner.close();  
    }  
}
```

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 scanner = new Scanner(System.in);  
  
        System.out.print("Enter the first number: ");  
        double num1 = scanner.nextDouble();
```

```

System.out.print("Enter the second number: ");
double num2 = scanner.nextDouble();

System.out.print("Enter the third number: ");
double num3 = scanner.nextDouble();

double largest = num1;

if (num2 > largest) {
    largest = num2;
}

if (num3 > largest) {
    largest = num3;
}

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

scanner.close();
}
}

```

Q23. Write a java program to calculate Simple Interest

Ans: import java.util.Scanner;

```

public class SimpleInterestCalculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

```

```

System.out.print("Enter the principal amount: ");
double principal = scanner.nextDouble();

System.out.print("Enter the annual interest rate (as a decimal): ");
double rate = scanner.nextDouble();

System.out.print("Enter the time period (in years): ");
double time = scanner.nextDouble();

double simpleInterest = (double)(principal * rate * time) * 0.01;

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

    scanner.close();
}
}

```

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

Ans: import java.util.Scanner;

```

public class RectangleCalculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the length of the rectangle: ");
        double length = scanner.nextDouble();

        System.out.print("Enter the width of the rectangle: ");

```

```

double width = scanner.nextDouble();

double area = length * width;
double perimeter = 2 * (length + width);

System.out.println("Area of the rectangle: " + area);
System.out.println("Perimeter of the rectangle: " + perimeter);

scanner.close();
}
}

```

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

Ans: import java.util.Scanner;

```

public class VowelConsonantChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a character: ");
        char ch = scanner.next().charAt(0);

        ch = Character.toLowerCase(ch);

        if ((ch >= 'a' && ch <= 'z') && (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')) {
            System.out.println(ch + " is a vowel.");
        }
    }
}

```

```
} else if (ch >= 'a' && ch <= 'z') {  
    System.out.println(ch + " is a consonant.");  
} else {  
    System.out.println("Invalid input. Please enter a valid alphabet character.");  
}  
  
scanner.close();  
}  
}
```