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**

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

- **A. True**
- **B. False**
- **C. Depend on code**
- **D. None**

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

- **A. Constructor**
- **B. Static**
- **C. All**
- **D. None**

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

- **A. Binding**
- **B. Abstraction**
- **C. Inheritance**
- **D. None**

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

- **A. Encapsulation**
- **B. Inheritance**
- **C. Polymorphism**
- **D. Abstraction**

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;

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

A. Set
B. List
C. Array
D. collection

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

Explanation : Any one class should have public modifier.

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

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. 5656
D. 5 6 5

Explanation : Cannot add a block in a method.

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

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

Explanation : Final Class can not be extended.

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

Explanation : Method overloading is not possible if we change only return type. It Can be done by parameters

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]

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

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.**

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 CheckEvenOrOdd{
    public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
        System.out.print("Provide any number : ");
        int value = sc.nextInt();
        if(value <=0){
            System.out.println("Given value is neither Even or Odd");
        }
        else{
        switch(value%2){
            case 1 ->{
                System.out.println("Given value is Odd");
                }
            case 0 ->{
                System.out.println("Given value is Even");
                }
            }
        }
    }
}
```

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

```
import java.util.Scanner;
public class AvgOfTwoNumbers {
   public static void main(String[] args){
```

```
     Scanner sc = new Scanner(System.in);
     System.out.print("Enter first value : ");
     int firstValue = sc.nextInt();
     System.out.println();
     System.out.println("Enter second value : ");
     int secondValue = sc.nextInt();
     int avgOfTwoValues = (firstValue+secondValue)/2;
     System.out.println("Average of Two Values is : "+avgOfTwoValues);
   }


}
```

Q19. Write a java program to swap two numbers

```
import java.util.Scanner;

public class SwapTwoNumbers {

    public static void main(String[] args){
     Scanner sc = new Scanner(System.in);
     System.out.print("Enter first value : ");
     int firstValue = sc.nextInt();
     System.out.println();
     System.out.println("Enter second value : ");
     int secondValue = sc.nextInt();
     System.out.println("Numbers Before Swaping"+firstValue +" "+secondValue);
     int valueToSwap = firstValue;
     firstValue = secondValue;
     secondValue= valueToSwap;
     System.out.println("Numbers after Swaping"+firstValue +" "+secondValue);
   }
}
```

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

```
import java.util.Scanner;
public class CheckPrimeNumber {
    public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
        System.out.print("Provide the any number : ");
        int inputValue=sc.nextInt();
        System.out.println(inputValue%6);
        if(inputValue==2 || inputValue==3 || inputValue ==5 || inputValue !=1
&&inputValue%6 ==1 ||inputValue%6==5){
            System.out.println("Given number is a prime number.");
        }
        else{
            System.out.print("Given number is not a prime number.");
        }

    }}
```

Q21. Write a java program to find table of n

```java
import java.util.Scanner;
public class PrintTableOfN {
    public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
         System.out.println("Enter number to get table");
        int number = sc.nextInt();

        for(int i = 1;i<=10;i++){
            System.out.println(number+" * "+i+" = "+number*i);
        }

    }

}
```

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

```java
import java.util.Scanner;
public class FindLargestAmongThree {
    public static void main(String [] args){
        int[] listOfThreeValues = new int[3];
        int largestValue=0;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter three values : ");

        for(int i = 0;i<listOfThreeValues.length;i++){
            listOfThreeValues[i]=sc.nextInt();
        }
        for(int j=0;j<listOfThreeValues.length;j++){
            if(largestValue<=listOfThreeValues[j]){
                for(int i = 0;i<listOfThreeValues.length;i++){
                if(listOfThreeValues[j]>=listOfThreeValues[i]){

                    largestValue =listOfThreeValues[j];
                }
            }

        }
        }
        System.out.print("Largest value among three values : "+largestValue);

    }

}
```

Q23. Write a java program to calculate Simple Interest

```java
import java.util.Scanner;
public class SimpleInterest {
    public static void main(String [] args){
```

```
        Scanner sc = new Scanner(System.in);
        System.out.print("Principal amount : ");
        double principal = sc.nextDouble();
         System.out.print("Rate of Interest : ");
        double rateOfInterest = sc.nextDouble();
          System.out.print("Number of years : ");
        double noOfYears = sc.nextDouble();
        double simpleInterest = (principal*rateOfInterest*noOfYears)/100;
        System.out.print("Simple Iterest : "+simpleInterest);
    }

}
```

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

```
import java.util.Scanner;
/*
 * Perimeter of a Rectangle = 2(a+b)
Area of Rectangle = a × b.
 */
public class AreaAndPerimeterOfRect {
    public static void main(String [] args){
    Scanner sc = new Scanner(System.in);
    System.out.print("Length : ");
    double length = sc.nextDouble();
    System.out.print("Breadth : ");
    double breadth = sc.nextDouble();
    double area = length*breadth;
    double perimeter = 2*(length+breadth);
    System.out.println("Area of a Rectangle : "+area);
    System.out.println("Perimeter of a Rectangle : "+perimeter);

}
}
```

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

```
import java.util.Scanner;
public class VowelOrConstant {
    public static void main(String [] args){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter anu alphabet : ");
        String alphabet = sc.next();
        alphabet = alphabet.toLowerCase();
        char charValue = alphabet.charAt(0);
        char[] vowelList = new char[]{'a', 'e', 'i', 'o', 'u'};
        int valueToTrack = 0;
        for(int i = 0;i<vowelList.length;i++){
            if(charValue==vowelList[i]){
                System.out.println("Given alphabet is vowel.");
                valueToTrack++;
                break;
```

```
            }
        }
        if(valueToTrack==0){
            System.out.println("Given alphabet is constant.");
        }
    }
}
```