Worksheet 2

Q1.Java method overloading implements the OOPS concept.

Ans - B. Inheritence

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

Ans - A. True

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 - C. Inheritance

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

Explanation: The class name and the java file name should be the 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);
}
}
```

Ans. B – Runtime Error

Explanation: Second print statement doesn’ t have access to y , scope y was limited to the block defined after initialisation of x.

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. 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

In class-B without declaring any function the code was written so in that System.out.println showing an error.

Even the display method is not present in class-B simply calling it is all 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

Explanation - Methods must have different signatures. Return type of methods does not contribute towards different method signature, so the code above give compilation error. Both getdata 1 and getdata 2 only differ in return types and NOT signatures.

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 - The first assignment creates a new String "john" object.

The second line explicitly uses the new keyword, meaning a new String object is created.

Since these objects are not the same, the == test on them evaluates to false.

The equals() test on them returns true because the values they refer to are equivalent

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. A – Three reference variables and two objects are created.

Explanation : The student Name, studentId, and stud_class are the three reference variables.

The objects are those variables that are created using the new operator, i.e., studentName and stud_class.

The studentId is only a reference variable as it is not declared using the new operator.

Both studentName and stud_class are reference variables as well as objects.

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

Ans. class OddEven {

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

        int num = 10;


        if (num % 2 == 0) {


            System.out.println("Entered Number is Even");
        }

        else {


            System.out.println("Entered Number is Odd");
        }
    }
}
```

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

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

    double num1 = 10;
    double num2 = 20;
    double sum = 0.0;
```

```
    double avg = 0.0;



    sum = num1 + num2;
    avg = sum/2;

    // display result
    System.out.println("Average: " + avg );
  }
}
```

Q19. Write a java program to swap two numbers.

Ans.

```
public class SwapNums {
Public static void main(String[] args){
Int x , y;
Scanner sc = new Scanner(System.in);
       System.out.println("Enter the value of X and Y");
       x = sc.nextInt();
       y = sc.nextInt();
       System.out.println("before swapping numbers: "+x +"  "+ y);


       t = x;
       x = y;
       y = t;
       System.out.println("After swapping: "+x +"   " + y);
       System.out.println( );
   }
```

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

```
. public class PrimeNumber{
 public static void main(String args[]){
  int i,m=0,flag=0;
  int n=3;
  m=n/2;
  if(m==0||m==1){
   System.out.println(m+" is not prime number");
  }else{
   for(i=2;i<=m;i++){
    if(n%i==0){
     System.out.println(n+" is not prime number");
     flag=1;
     break;
    }
   }
   if(flag==0)  { System.out.println(n+" is prime number"); }
  }//end of else
}
}
```

Q21. Write a java program to find table of n

Ans.

```
class numTable {
    public static void main(String[] args)
    {
        int N = 7;

        for (int i = 1; i <= 10; i++) {
```

```
            // printing the N*i,ie ith multiple of N.
            System.out.println(N + " * " + i + " = "
                               + N * i);
        }
    }
}
```

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

```
import java.io.*;

class GFG {

    // Function to find the biggest of three numbers
    static int biggestOfThree(int x, int y, int z)
    {

        return z > (x > y ? x : y) ? z : ((x > y) ? x : y);
    }

    // Main driver function
    public static void main(String[] args)
    {

        // Declaring variables for 3 numbers
        int a, b, c;

        // Variable holding the largest number
        int largest;
```

```
        a = 5;
        b = 10;
        c = 3;
        // Calling the above function in main
        largest = biggestOfThree(a, b, c);

        // Printing the largest number
        System.out.println(largest
                           + " is the largest number.");
    }
}
```

Q23. Write a java program to calculate Simple Interest

```
class SimpleInterest {
    public static void main(String args[])
    {
        float P = 1, R = 1, T = 1;

        float SI = (P * T * R) / 100;
        System.out.println("Simple interest = " + SI);
    }
}
```

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

```
public class Rectangle {
```

```
    // Variable of data type double
    double length;
    double width;

    // Area Method to calculate the area of Rectangle
    void Area()
    {
        double area;
        area = this.length * this.width;
        System.out.println("Area of rectangle is : "
                           + area);
    }

    void Perimeter()
    {
        double perimeter;
        perimeter = 2 * (this.length + this.width);
        System.out.println("Perimeter of rectangle is : "
                           + perimeter);
    }
}

class Use_Rectangle {

    public static void main(String args[])
    {

        Rectangle rect = new Rectangle();
```

```
        rect.Area();
        rect.Perimeter();
    }
}
```

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

Ans.

```
public class checkVowel {

    // Function to find whether an input
    // character is vowel or not
    static void Vowel_Or_Consonant(char y)
    {
        if (y == 'a' || y == 'e' || y == 'i' || y == 'o'
            || y == 'u')
            System.out.println("It is a Vowel.");
        else
            System.out.println("It is a Consonant.");
    }

    // The Driver code
    static public void main(String[] args)
    {
        Vowel_Or_Consonant('b');
        Vowel_Or_Consonant('u');
    }
```

```
}
```