FULL STACK DEVELOPMENT – WORKSHEET 2

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; (It will give complile time error, as no two variables of different type can be initialized in a single statement)

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

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 (When variable ‘y’ is used out of static block it will show a compilation error, “variable used out of scope”)

B. Runtime Error

C. 5 6 5 6

D. 5 6 5

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(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 (As same class is having two methods with same name and input parameters with different type, it will show compilation error. But if we use methods with different names getData1() and getData2() respectively, then calling a specific method with object 'obj' it will print respective output.)

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 ((john==jon) compares the references of two objects, hence it will print ‘false’ and (john.equals(jon) compares contents of two objects, hence it will print ‘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 create

Q17 to Q25 are simple java programs to write.

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

Explanation : In this program integer is already defined. A function 'NumberIsEvenOrOdd()' Divides a number by 2 and checks if modulous is zero or not. If its zero then given number is Even otherwise it's a Odd number.

```
import java.io.*;
public class NumberIsEvenOrOdd{
   public static void main(String[] args) {
   int a = 13;
   if(a%2==0)
      System.out.println(a+"is Even number");
   else
      System.out.println(a+" is Odd number");
   }
}
```

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

```
import java.io.*;
public class Average
```

```
{
 public static void main(String[] args)
 {
   int a=8,b=7;
   int addition=a+b;
   System.out.println("Average of two numbers is:"+addition/2);
 }
}
```

Q19. Write a java program to swap two numbers

```
import java.io.*;
import java.util.scanner;
public class A{
public static void main(String args[]){
Scanner s=new Scanner(System.in);
System.out.println(“Enter any two integer numbers:”);
Int a=s.nextInt();
Int b=s.nextInt();
System.out.println(“values of a and b are ” +a+ “ and ” +b);
a=a+b;
b=a-b;
a=a-b;
System.out.println(“values of a and b after swapping are ”+a+ “ and ”+b );
}
}
```

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

Explanation : Prime number is a number which is divisible by 1 and itself. In this program, a function ‘numberIsPrimeOrNot(int n)’ takes ‘n’ as integer input to check if it’s a prime number or not. For loop is applied to check given number is divisible by how many

numbers. If count==2 then given number is prime, otherwise given number is not prime number.

```
public class CheckIfPrime{
   numberIsPrimeOrNot(int n){
      int count=0;
      for(int i=1;i<=n;i++)
      {
         if(n%i==0)
         {
            count++;
         }
      }
      if(count==2)
      System.out.println(n+" is a prime number");
      else
      System.out.println(n+" is not a prime number");
   }
   public static void main(String[] args) {
      numberIsPrimeOrNot(53);
      numberIsPrimeOrNot(123);
      numberIsPrimeOrNot(16);
   }
}
```

Q21. Write a java program to find table of n

```
import java.io.*;
import java.util.Scanner;
public class Table{
public static void main(String args[]){
Scanner s=new Scanner(System.in);
```

```
System.out.println(“Please enter any integer number:”);
Int num= s.nextInt();
System.out.println(“Table of ”+num+ “is :”);
for(int i=1;i<=10;i++)
{
        Int t=num*i;
System.out.println(t);
}
}
}
```

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

```
import java.io.*;
import java.util.Scanner;
Public class LargestNumber{
Public static void main(String args[])
{
        Scanner s=new Scanner(System.in);
        System.out.println(“Enter any three integer numbers :”);
        int a=s.nextInt();
        int b=s.nextInt();
        int c=s.nextInt();
        if(a>b)
        {
                If(a>c){
                System.out.println(a+“ is greatest”);
                }
                else{
                System.out.println(c+“ is greatest”);
                }
        }
        else{
```

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

Q23. Write a java program to calculate Simple Interest

```
Import java.io.*;
Import java.util.Scanner;
Public Class SI{
Public static void main(String args[])
{
        Scanner s=new Scanner(System.in);
        System.out.println("Pls enter Principal amount :");
        double PA=s.nextDouble();
        System.out.println("Please enter rate of interest :");
        Int r=s.nextInt();
        System.out.println("Please enter time :");
        Int t=s.nextInt();
        Double SI=(PA*r*t)/100;
        System.out.println("Simple interest is:"+SI);

}
}
```

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

```
Import java.io.*;
Import java.util.Scanner;
```

```
Public class Rectangle{
Public static void main(String args[])
{
   Scanner s= new Scanner();
   System.out.println(“Enter Length of a rectangle:”);
   Int l=s.nextInt();
   System.out.println(“Enter breadth of a rectangle:”);
   Int  b=s.nextInt();
   Int area=l*b;
   Int perimeter=2(l+b);
   System.out.println(“area of a rectangle is:”+area);
   System.out.println(“perimeter of a rectangle is:”+perimeter);
}
}
```

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

```
Import java.io.*;
Import java.util.Scanner;
Public Class Test{
Public static void main(String args[])
{
Scanner s=new Scanner(System.in);
System.out.println(“Enter any character”);
Char char=s.nextChar();
If(char==’a’|| char==’e’||char==’i’||char==’o’||char==’u’|| char==’A’||
char==’E’||char==’I’||char==’O’||char==’U’)
{
        System.out.println(“Character is Vowel”);
}
Else
{
```

```
            System.out.println(“Character is consonant”);
    }
    }
    }
```