**Java Assignment**

**1)** Take 20 integer inputs from user and print the following:

number of positive numbers

number of negative numbers

number of odd numbers

number of even numbers

number of 0s.

**2)** Take an array of 10 elements. Split it into middle and store the elements in two dfferent arrays. E.g.-

INITIAL array :

58 24 13 15 63 9 8 81 1 78

After spliting :

58 24 13 15 63

9 8 81 1 78

**3)** Create a class with a method that prints "This is parent class" and its subclass with another method that prints "This is child class". Now, create an object for each of the class and call

1 - method of parent class by object of parent class

2 - method of child class by object of child class

3 - method of parent class by object of child class

**4)** Write a program to print the name, salary and date of joining of 10 employees in a company.

Use array of objects.

**5)** Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Robert Brett Roser, then the output should be R.B.Roser.

**6)** What is the difference between equals() method and equality operator (==) in Java?

**7)** What is the difference between StringBuilder and StringBuffer?

**8)** Explain the use of final keyword in variable, method and class.

**9)** Is it possible that the ‘finally’ block will not be executed? If yes then list the case.

**10)** What are shallow copy and deep copy in java?

**11)** What will be the output of below program?

public class TestClass

{

public static void main(String[] args)

{

int a = 30;

int b = 40;

int c = 10;

int expression = (a \* b)/(a - b + c);

System.out.println("Result: " +expression);

}

}

**12)** Why it is always recommended to keep the clean-up activities like closing the I/O resources or DB connections inside a finally block?

**13)** What happens if the below code is executed?

public class Test

{

public static void main(String[] args)

{

int[] list = new int[4];

System.out.println(list[4]);

}

}

**14)** How many objects will be created for the following codes:

A.

String str1 = "abc"; //Line1

String str2 = new String("abc"); //Line2

B.

String str1 = "abc"; //Line1

String str2 = "abc"; //Line2

C.

String str1 = new String("abc"); //Line1

String str2 = new String("abc"); //Line2

**15)** How do you check whether a String is empty in Java?

**16)** Write a program in java to join two arraylists into one arraylist.

**17)** Which of the following methods can be used to set every element of the List to a specified value?

set()

add()

complete()

fill()

**18)** Which of the following guarantees type-safety in a collection?

Abstract Classes

Interface

Collection

Generics

**19)** Differentiate between Comparable and Comparator in the context of Java.

**20)** Write a Java program to create and throw custom exceptions.

**21)** What is the output of the below code?

class IABC{

public static void main(String args[])

{

String obj = "Hello";

String obj1 = "ABC";

String obj2 = "Hello";

System.out.println(obj.equals(obj1) + " " + obj.equals(obj2));

}

}

**22)** Create a class named 'Member' having the following members:

Data members

1 - Name

2 - Age

3 - Phone number

4 - Address

5 - Salary

It also has a method named 'printSalary' which prints the salary of the members.

Two classes 'Employee' and 'Manager' inherits the 'Member' class. The 'Employee' and 'Manager' classes have data members 'specialization' and 'department' respectively. Now, assign name, age, phone number, address and salary to an employee and a manager by making an object of both of these classes and print the same.