**PROGRAM LIST**

1. **Aim: Introduce the java fundamentals, data types, operators in java**

Program: Write a java program that prints all real solutions to the quadratic equation ax2+bx+c=0. Read in a, b, c and use the quadratic formula.

1. **Aim: Demonstrating creation of java classes, objects, constructors, declaration and initialization of**

**variables.**

Program: Create a Java class called Student with the following details as variables within it.

USN

Name

Branch

Phone

Write a Java program to create n Student objects and print the USN, Name, Branch, and Phone of

these objects with suitable headings.

1. **Aim: Discuss the various Decision-making statements, loop constructs in java**

Program:

A. Write a program to check prime number

B. Write a program for Arithmetic calculator using switch case menu

1. **Aim: Demonstrate the core object-oriented concept of Inheritance, polymorphism**

Program:

Design a super class called Staff with details as StaffId, Name, Phone, Salary. Extend this class by

writing three subclasses namely Teaching (domain, publications), Technical (skills), and Contract

(period). Write a Java program to read and display at least 3 staff objects of all three

categories.

1. **Aim: Introduce concepts of method overloading, constructor overloading, overriding.**

Program: Write a java program demonstrating Method overloading and Constructor overloading.

1. **Aim: Introduce the concept of Abstraction, packages.**

Program: Develop a java application to implement currency converter (Dollar to INR, EURO to

INR, Yen to INR and vice versa), distance converter (meter to KM, miles to KM and vice versa), time

converter (hours to minutes, seconds and vice versa) using packages. \

1. **Aim: Introduction to abstract classes, abstract methods, and Interface in java**

Program: Write a program to generate the resume. Create 2 Java classes Teacher (data: personal

information, qualification, experience, achievements) and Student (data: personal information, result,

discipline) which implements the java interface Resume with the method biodata ().

1. **Aim: Demonstrate creation of threads using Thread class and Runnable interface, multi- threaded**

**programming.**

Program: Write a Java program that implements a multi-thread application that has three

threads. First thread generates a random integer for every 1 second; second thread computes the

square of the number and prints; third thread will print the value of cube of the number.

1. **Aim: Introduce java Collections.**

Program: Write a program to perform string operations using ArrayList. Write functions for the

following a. Append - add at end b. Insert – add at particular index c. Search d. List all

string starts with given letter.

1. **Aim: Exception handling in java, introduction to throwable class, throw, throws, finally.**

Program: Write a Java program to read two integers a and b. Compute a/b and print, when b is not

zero. Raise an exception when b is equal to zero.

1. **Aim: Introduce File operations in java.**

Program:

Write a java program that reads a file name from the user, displays information about

whether the file exists, whether the file is readable, or writable, the type of file and the length of the

file in bytes

1. **Aim: Introduce java Applet, awt, swings.**

Programs:

Develop an applet that displays a simple message in center of the screen. Develop a simple calculator

using Swings.