Practice Programs for OOJ Lab

1. Write a menu driven Java Program to design a simple calculator which solves 10 operations - 4 Arithmetic, 4 Relational and any two of your choice. The program should loop till the user wishes to stop.

2. Write a Java program to accept three numbers from the user. Find the greater two among the three and pass them as parameters to the methods as given below.

    a. **sumaver (…)** which finds the sum and average of the two numbers. Print the sum and return the average.

    b. **printeven (…)** which prints all the even numbers between the given two numbers

3. Write a Java program to accept a number n from the user and print n rows of output as given below if n=4.

        1
        2   3
        4   5   6
        7   8   9   10

4. Write a Java program to accept the CIE marks (Out of 50) and SEE marks (Out of 100) of a student and print his/her grade. Use if… elseif ladder

5. Write a Java program to print the prime numbers between given two integers (inclusive). Accept these two integers from the user.

6. Write a Java program which prints the area and volume of any one of the given shapes given below. Accept the choice of the shape, appropriate inputs from the user, calculate and display the area and the volume of the same. Repeat this with different shapes till the user wishes to stop.

Cylinder:	Area : $A=2\pi rh+2\pi r^2$	Volume: $V=\pi r^2h$
Cone:	Area: $A=\pi r(r+ \sqrt{(h^2+r^2)})$	Volume: $V= \pi r^2h/3$
Sphere:	Area: $A= 4\pi r^2$	Volume: $V= (4/3) \pi r^3$

7. Write a Java program to count the number of students registered for three elective courses. Accept the names of n students, their choice of the elective (Say, the electives courses offered are Internet of Things, Advanced Java and J2EE and Advanced Data Structures).
    Include the following operations:
    1. Accept say x from the user. Display the names of the students who have opted for elective x
    2. Count and display the total number of students present in each elective.

3. If count is less than 30, inform that the course will not be floated and ask the students who have opted the course to reselect their electives from the other two. Count and display the counts again.
4. Display the name of the students in each elective.