List of Practical

**1. Basic datatype and looping**

a. Write a program for swapping and find a factorial value. Perform swapping without using a third variable.

b. Write a Java program to check whether a number is even or odd.

c. Write a Java program to check whether a number is prime or not

d. Write a Java program to print a Fibonacci series with user input.

e. Write a Java Program to Check the Armstrong Number

f. Swapping Two Numbers in Java Using Third Variable

2. **Looping and Control structure**

a. Write a program to accept a number from the user through the command line and display whether the given number is palindrome or not

b. Java Pattern Programs

Number triangle Pattern

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

6 6 6 6 6 6

Right Half Pyramid Pattern

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Left Half Pyramid Pattern

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Reverse Right Half Pyramid Pattern

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Triangle Star Pattern

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**3. Array**

a. Write a program to accept an array of integers from the user through the command line and find prime numbers from the array

**4. Class**

a. Create a class Stack that defines an integer stack that can hold 10 values. Perform push and pop actions in a stack.

b. Write a program to print the area of two rectangles having sides (4,5) and (5,8) respectively by creating a class named 'Rectangle' with a method named 'Area' which returns the area and length and breadth passed as parameters to its constructor.

c. Write a program to print the area of a rectangle by creating a class named 'Area' taking the values of its length and breadth as parameters of its constructor and having a method named 'returnArea' which returns the area of the rectangle. Length and breadth of rectangle are entered through keyboard.

**5. Inheritance**

Write a program to create a class Publisher with attributes publisher name and publisher id. Derive a subclass Book with attributes bookname, bookid and author name. All these data should be entered by the user. Create two methods getdata() and showdata() to display the details of book and publisher.

**6. Method Overloading**

a. Write a program to create a class with two methods with same name addfunc(), one accepting two integer parameters and other accepting two double parameters. When method is called, the appropriate method should be selected depending on parameters passed(method overloading.

**7. Super and this keyword**

Declare a variable called x with integer as the data type in base class and subclass. Make a method named as show() which displays the value of x in the superclass and subclass.

**8. Method Overriding**

**a.** Write a Java program to create a class called Shape with a method called getArea(). Create a subclass called Rectangle that overrides the getArea() method to calculate the area of a rectangle.

**b.** Write a Java program to create a class called Employee with methods called work() and getSalary(). Create a subclass called HRManager that overrides the work() method and adds a new method called addEmployee().

**c.** Write a Java program to create a class known as Person with methods called getFirstName() and getLastName(). Create a subclass called Employee that adds a new method named getEmployeeId() and overrides the getLastName() method to include the employee's job title.

**d.** Write a Java program to create a class called Shape with methods called getPerimeter() and getArea(). Create a subclass called Circle that overrides the getPerimeter() and getArea() methods to calculate the area and perimeter of a circle.

**9. Final class, abstract class, and interface**

a. Write a program to calculate the area, circumference and volume for all shapes. [Perform this application using final class, abstract class and interface]

b. w.a.p in java to create a class circle to calculate and display the area of the circle to implement Final Variable in Java

c. w.a.p in Java to create a class Animal **to Implement Final Methods** the general characteristics of an Animal along with the constant variables to store the number of legs, ears eyes, and whether the animal has a tail. Create a subclass wolf to display the additional characteristics.

d. Write a Java program to create an abstract class BankAccount with abstract methods deposit() and withdraw(). Create subclasses: SavingsAccount and CurrentAccount that extend the BankAccount class and implement the respective methods to handle deposits and withdrawals for each account type.

e. Write a Java program to create an abstract class Shape3D with abstract methods calculateVolume() and calculateSurfaceArea(). Create subclasses Sphere and Cube that extend the Shape3D class and implement the respective methods to calculate the volume and surface area of each shape.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  "There is nothing impossible to they who will try." \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

- All The Best -