Experiment 2

Student Name: Aditya Pratap Singh **UID: 22BCS16435**
Branch: CSE **Section/Group:22BCS_IOT-635(B)**
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Subject Name: Java **Subject Code: 22CSH-352**

1. **Aim:** Design a student information system using Java with the following features: Use an abstract class Person with attributes name, age, and methods like displayDetails(). Create derived classes Student and Teacher to override displayDetails() and add unique attributes like rollNumber for students and subject for teachers.

2. **Code:**

```
import java.util.*;

// Abstract class Person
abstract class Person {
    String name;
    int age;

    Person(String name, int age) {
        this.name = name;
        this.age = age;
    }

    abstract void displayDetails();
}

// Student class
class Student extends Person {
    int rollNumber;

    Student(String name, int age, int rollNumber) {
        super(name, age);
        this.rollNumber = rollNumber;
    }

    @Override
```

```
    void displayDetails() {
        System.out.println("Student Details: Name: " + name + ", Age: " + age + ",
Roll Number: " + rollNumber);
    }
}

// Teacher class
class Teacher extends Person {
    String subject;

    Teacher(String name, int age, String subject) {
        super(name, age);
        this.subject = subject;
    }

    @Override
    void displayDetails() {
        System.out.println("Teacher Details: Name: " + name + ", Age: " + age + ",
Subject: " + subject);
    }
}

public class Main {
    public static void main(String[] args) {
        // Example Usage
        Student student = new Student("Alice", 20, 101);
        Teacher teacher = new Teacher("Mr. Smith", 40, "Mathematics");

        student.displayDetails();
        teacher.displayDetails();
    }
}
```

3. **Output:-**

```
Student Details: Name: Alice, Age: 20, Roll Number: 101
Teacher Details: Name: Mr. Smith, Age: 40, Subject: Mathematics
```