

EXPT. NO.2 PROGRAMS TO ILLUSTRATE CONCEPT OF CLASS AND STATIC CLASSES AND METHODS

2a. Programs using JAVA Class and Objects, Constructors and Access Specifiers

1. Student Record System - Create a Java program with a class Student that holds data: rollNo, name, and department.
 - Use a constructor to initialize the data
 - Apply access specifiers appropriately to secure data
 - Provide getter methods for accessing private fields
 - Display the details using a separate method
2. Online Product Inventory - Develop a class Product with productId, productName, and price.
 - Use constructor overloading to allow both default and parameterized initialization
 - Use private variables with get and set methods
 - Write a method to display products under ₹500
3. Hospital Patient Management - Implement a class Patient with fields name, age, and disease.
 - Use constructor to assign data
 - Apply protected access to disease and private for age
 - Create methods to display patient details
 - Demonstrate access from another class in the same package

2b. Programs to illustrate static classes and methods

1. Write a Java program to count how many objects of a class Employee are created using a static variable.
2. Create a utility class MathUtils with static methods to calculate:
 - Square of a number
 - Cube of a number
 - Factorial of a number
3. Design a class Student with a static variable for collegeName. Create three objects and change the college name using a static method.