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Assigment no 2

Assignment title:

Design and implement a class concept with default, parameterized, and copy constructors, along with member functions to accept and display information.

// Student class with default, parameterized, and copy constructors

class Student {

    private String name;

    private int age;

    private int rollNo;

    // Default constructor (initializes with default values)

    public Student() {

        this.name = "Unknown";

        this.age = 0;

        this.rollNo = 0;

    }

    // Parameterized constructor (initializes with given values)

    public Student(String name, int age, int rollNo) {

        this.name = name;

        this.age = age;

        this.rollNo = rollNo;

    }

    // Copy constructor (copies values from another Student object)

    public Student(Student other) {

        this.name = other.name;

        this.age = other.age;

        this.rollNo = other.rollNo;

    }

    // Method to accept student information

    public void acceptInfo(String name, int age, int rollNo) {

        this.name = name;

        this.age = age;

        this.rollNo = rollNo;

    }

    // Method to display student information

    public void displayInfo() {

        System.out.println("Student Name: " + name);

        System.out.println("Age: " + age);

        System.out.println("Roll Number: " + rollNo);

        System.out.println("--------------------------------");

    }

}

// Main class to test the Student class

public class para {

    public static void main(String[] args) {

        // Using default constructor

        Student student1 = new Student();

        System.out.println("Using Default Constructor:");

        student1.displayInfo();  // Displays default values

        // Using parameterized constructor

        Student student2 = new Student("John Doe", 20, 101);

        System.out.println("Using Parameterized Constructor:");

        student2.displayInfo();  // Displays the given values

        // Using copy constructor

        Student student3 = new Student(student2);  // Copying student2's data

        System.out.println("Using Copy Constructor:");

        student3.displayInfo();  // Displays copied values

        // Using acceptInfo() method to input student details

        Student student4 = new Student();

        student4.acceptInfo("Alice Smith", 22, 102);

        System.out.println("Using acceptInfo Method:");

        student4.displayInfo();  // Displays entered details

    }

}

