MẪU BÀI TẬP CÁ NHÂN

I - THÔNG TIN SINH VIÊN

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SỐ MÁY:

LAB 3

Link github:II - PHẦN THỰC HÀNH

Bài 1

```
import java.util.Scanner;


public class Student {
    private int id;
    private String name;
    private double averageScore;


    public Student() {
        this.id = 0;
        this.name = "";
        this.averageScore = 0.0;
    }


    public Student(int id, String name, double averageScore) {
        this.id = id;
```

```
    this.name = name;
    this.averageScore = averageScore;
}

public Student(Student other) {
    this.id = other.id;
    this.name = other.name;
    this.averageScore = other.averageScore;
}

public void inputInfo() {
    Scanner input = new Scanner(System.in);
    System.out.print("Mã số: ");
    id = input.nextInt();
    input.nextLine();
    System.out.print("Họ tên: ");
    name = input.nextLine();
    System.out.print("Điểm TB: ");
    averageScore = input.nextDouble();
}

public void display() {
    System.out.println(id + " | " + name + " | " + averageScore);
}
```

```
    public void classify() {
        if (averageScore < 5)
            System.out.println("Loại: Yếu");
        else if (averageScore < 7)
            System.out.println("Loại: Trung bình");
        else
            System.out.println("Loại: Giỏi");
    }

    public double getAverageScore() {
        return averageScore;
    }

    public String getName() {
        return name;
    }
}
```

Bài 2

```
import java.util.Scanner;

public class Fraction {
    private int numerator;
    private int denominator;

    public Fraction() {
```

```
    numerator = 0;
    denominator = 1;
}

public Fraction(int n, int d) {
    numerator = n;
    denominator = (d == 0) ? 1 : d;
}

public Fraction(Fraction f) {
    numerator = f.numerator;
    denominator = f.denominator;
}

public void inputFraction() {
    Scanner sc = new Scanner(System.in);
    System.out.print("Tử: ");
    numerator = sc.nextInt();
    do {
        System.out.print("Mẫu (khác 0): ");
        denominator = sc.nextInt();
    } while (denominator == 0);
}

public void display() {
```

```
    System.out.println(numerator + "/" + denominator);
}

private int gcd(int a, int b) {
    while (b != 0) {
        int r = a % b;
        a = b;
        b = r;
    }
    return a;
}

private void simplify() {
    int ucln = gcd(numerator, denominator);
    numerator /= ucln;
    denominator /= ucln;
}

public Fraction add(Fraction f) {
    int newTu = numerator * f.denominator + f.numerator * denominator;
    int newMau = denominator * f.denominator;
    Fraction result = new Fraction(newTu, newMau);
    result.simplify();
    return result;
}
```

```
    public Fraction subtract(Fraction f) {
        int newTu = numerator * f.denominator - f.numerator * denominator;
        int newMau = denominator * f.denominator;
        Fraction result = new Fraction(newTu, newMau);
        result.simplify();
        return result;
    }

    public Fraction multiply(Fraction f) {
        Fraction result = new Fraction(numerator * f.numerator, denominator * f.denominator);
        result.simplify();
        return result;
    }

    public Fraction divide(Fraction f) {
        Fraction result = new Fraction(numerator * f.denominator, denominator * f.numerator);
        result.simplify();
        return result;
    }
}
```

Bài 3

```
public class Shape {
    protected String name;
```

```
    public Shape() {
        name = "Undefined";
    }

    public Shape(String name) {
        this.name = name;
    }

    public void display() {
        System.out.println("Hình: " + name);
    }

    public double getArea() {
        return 0;
    }
}
```

Bài 4

```
public class Vehicle {
    private String brand;
    private String model;
    private int year;

    public Vehicle() {
        brand = "";
        model = "";
        year = 0;
    }
```

```
    public Vehicle(String b, String m, int y) {
        brand = b;
        model = m;
        year = y;
    }

    public void showInfo() {
        System.out.println("Hãng: " + brand + ", Dòng xe: " + model + ", Năm SX: " + year);
    }

    public String getBrand() {
        return brand;
    }
}
public class Car extends Vehicle {
    private int seatCount;

    public Car(String b, String m, int y, int seats) {
        super(b, m, y);
        seatCount = seats;
    }

    @Override
    public void showInfo() {
        super.showInfo();
```

```
        System.out.println("Số chỗ ngồi: " + seatCount);
    }
}
```

Bài 5

```
public class Animal {
    protected String type;

    public Animal(String type) {
        this.type = type;
    }

    public void speak() {
        System.out.println("Động vật đang phát ra âm thanh...");
    }
}
public class Dog extends Animal {
    public Dog() {
        super("Chó");
    }

    @Override
    public void speak() {
        System.out.println("Gâu gâu!");
    }
}
```