NAME

HABIB ULLAH

REG NO

FA2-BSE-147

SIR

NUMAN KHAN

LAB TASK

EXERSICE

DATE

5/10/2025

Exercises:

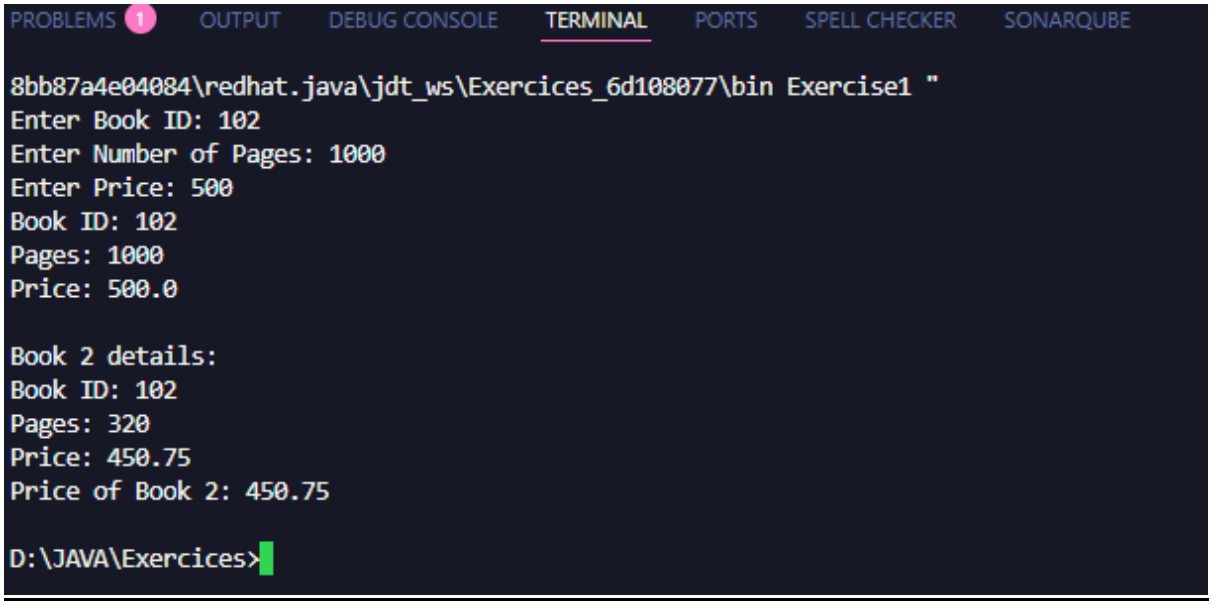
Exercise-1:

```
import java.util.Scanner;


public class Exercise1 {
    private int bookId;
    private int pages;
    private double price;

    public void get() {
```

```
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter Book ID: ");
    bookId = sc.nextInt();
    System.out.print("Enter Number of Pages: ");
    pages = sc.nextInt();
    System.out.print("Enter Price: ");
    price = sc.nextDouble();
  }
  public void show() {
    System.out.println("Book ID: " + bookId);
    System.out.println("Pages: " + pages);
    System.out.println("Price: " + price);
  }
  public void set(int id, int p, double pr) {
    bookId = id;
    pages = p;
    price = pr;
  }
  public double getPrice() {
    return price;
  }
  public static void main(String[] args) {
    Exercise1 b1 = new Exercise1();
    b1.get();
    b1.show();
```

```
        Exercise1 b2 = new Exercise1();
        b2.set(102, 320, 450.75);
        System.out.println("\nBook 2 details:");
        b2.show();
        System.out.println("Price of Book 2: " + b2.getPrice());
    }
}
```

Output:

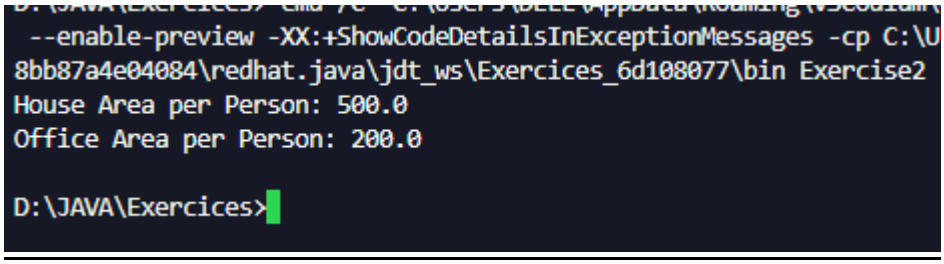


Exercise-2:

```
public class Exercise2 {
    public int floors;
    public double area;
    public int occupants;



    public double areaPerPerson() {
        if (occupants == 0)
            return 0;
        return area / occupants;
    }

    // Main method
    public static void main(String[] args) {
        Exercise2 house = new Exercise2();
        house.floors = 2;
        house.area = 2500.0;
        house.occupants = 5;

        Exercise2 office = new Exercise2();
        office.floors = 5;
        office.area = 10000.0;
        office.occupants = 50;
```

```
        System.out.println("House Area per Person: " + house.areaPerPerson());
        System.out.println("Office Area per Person: " + office.areaPerPerson());
    }
}
```

Output:



Exercise-3(A):

```
import java.util.Scanner;


public class Exercise3a {
    private int rollNo;
    private String name;
    private int[] marks = new int[3];



    public void input() {
```

```
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter Roll No: ");
    rollNo = sc.nextInt();
    sc.nextLine();
    System.out.print("Enter Name: ");
    name = sc.nextLine();
    System.out.println("Enter Marks of 3 Subjects:");
    for (int i = 0; i < 3; i++) {
    marks[i] = sc.nextInt();
    }
}


public void show() {
    System.out.println("\nRoll No: " + rollNo);
    System.out.println("Name: " + name);
    System.out.print("Marks: ");
    for (int m : marks) {
        System.out.print(m + " ");
    }
    System.out.println("\nTotal: " + total());
    System.out.println("Average: " + avg());
}


public int total() {
```

```
        int sum = 0;
        for (int m : marks) {
            sum += m;
        }
        return sum;
    }


    public double avg() {
        return total() / 3.0;
    }

    // Main method
    public static void main(String[] args) {
        Exercise3a student = new Exercise3a();
        student.input();
        student.show();
    }
}
```

Output:

```
8bb87a4e04084\redhat.java\jdt_ws\Exercices_6d108077\bin Exercise3a "
Enter Roll No: 133
Enter Name: talha
Enter Marks of 3 Subjects:
90
90
60

Roll No: 133
Name: talha
Marks: 90 90 60
Total: 240
Average: 80.0

D:\JAVA\Exercices>
```

Exercise-3(A):

```
public class Exercise3b {

    private double length;

    private double width;



    public Exercise3b() {

        length = 1.0;

        width = 1.0;

    }



    public void setLength(double l) {

        if (l > 0.0 && l < 20.0)

            length = l;

        else
```

```
        System.out.println("Invalid length! Must be >0.0 and <20.0");
    }

    public void setWidth(double w) {
        if (w > 0.0 && w < 20.0)
            width = w;
        else
            System.out.println("Invalid width! Must be >0.0 and <20.0");
    }
    public double getLength() {
        return length;
    }
    public double getWidth() {
        return width;
    }
    public double area() {
        return length * width;
    }
    public double perimeter() {
        return 2 * (length + width);
    }
    public static void main(String[] args) {
        Exercise3b r = new Exercise3b();
        r.setLength(5.5);
        r.setWidth(4.2);
```

```
        System.out.println("Length: " + r.getLength());
        System.out.println("Width: " + r.getWidth());
        System.out.println("Area: " + r.area());
        System.out.println("Perimeter: " + r.perimeter());
    }
}
```

Output: