Java Lab Assignment – 3

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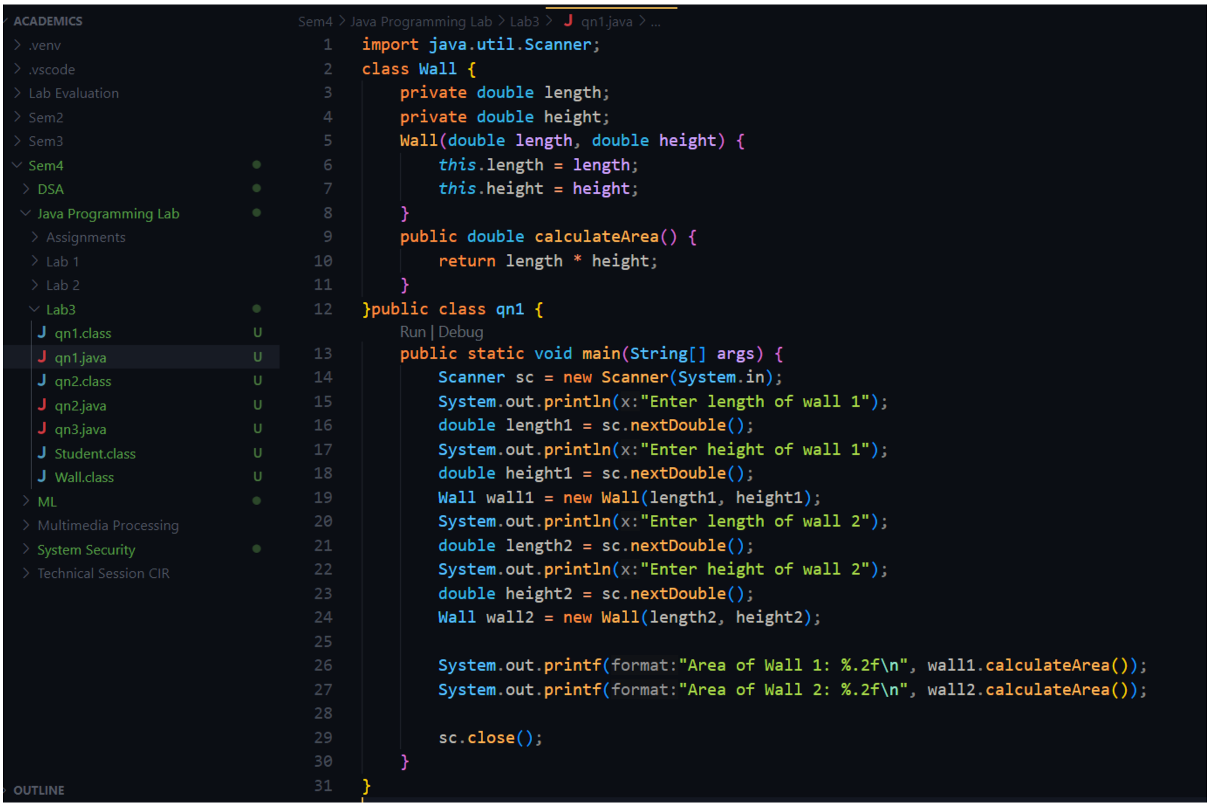
CB.SC.U4CYS23036

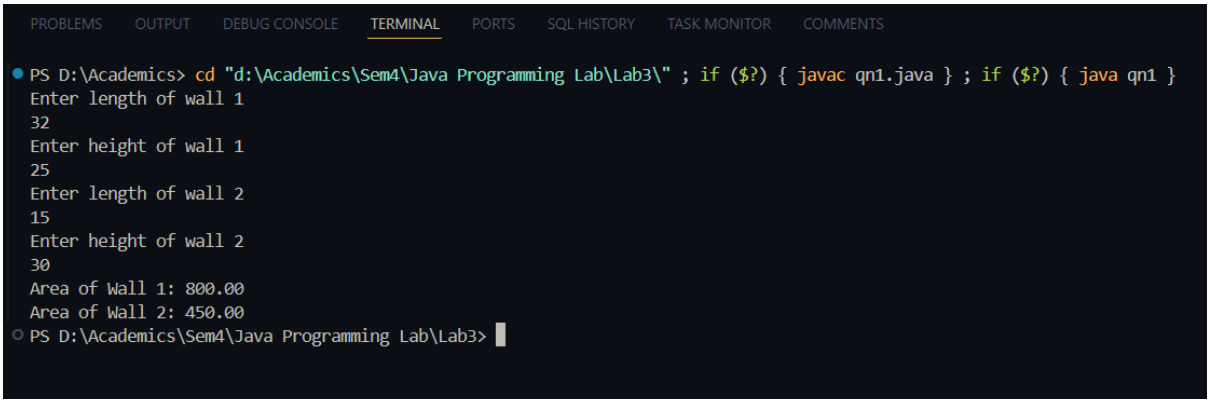
Qn1.

Code:



```java
import java.util.Scanner;
class Wall {
    private double length;
    private double height;
    Wall(double length, double height) {
        this.length = length;
        this.height = height;
    }
    public double calculateArea() {
        return length * height;
    }
}public class qn1 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println(x:"Enter length of wall 1");
        double length1 = sc.nextDouble();
        System.out.println(x:"Enter height of wall 1");
        double height1 = sc.nextDouble();
        Wall wall1 = new Wall(length1, height1);
        System.out.println(x:"Enter length of wall 2");
        double length2 = sc.nextDouble();
        System.out.println(x:"Enter height of wall 2");
        double height2 = sc.nextDouble();
        Wall wall2 = new Wall(length2, height2);

        System.out.printf(format:"Area of Wall 1: %.2f\n", wall1.calculateArea());
        System.out.printf(format:"Area of Wall 2: %.2f\n", wall2.calculateArea());

        sc.close();
    }
}
```

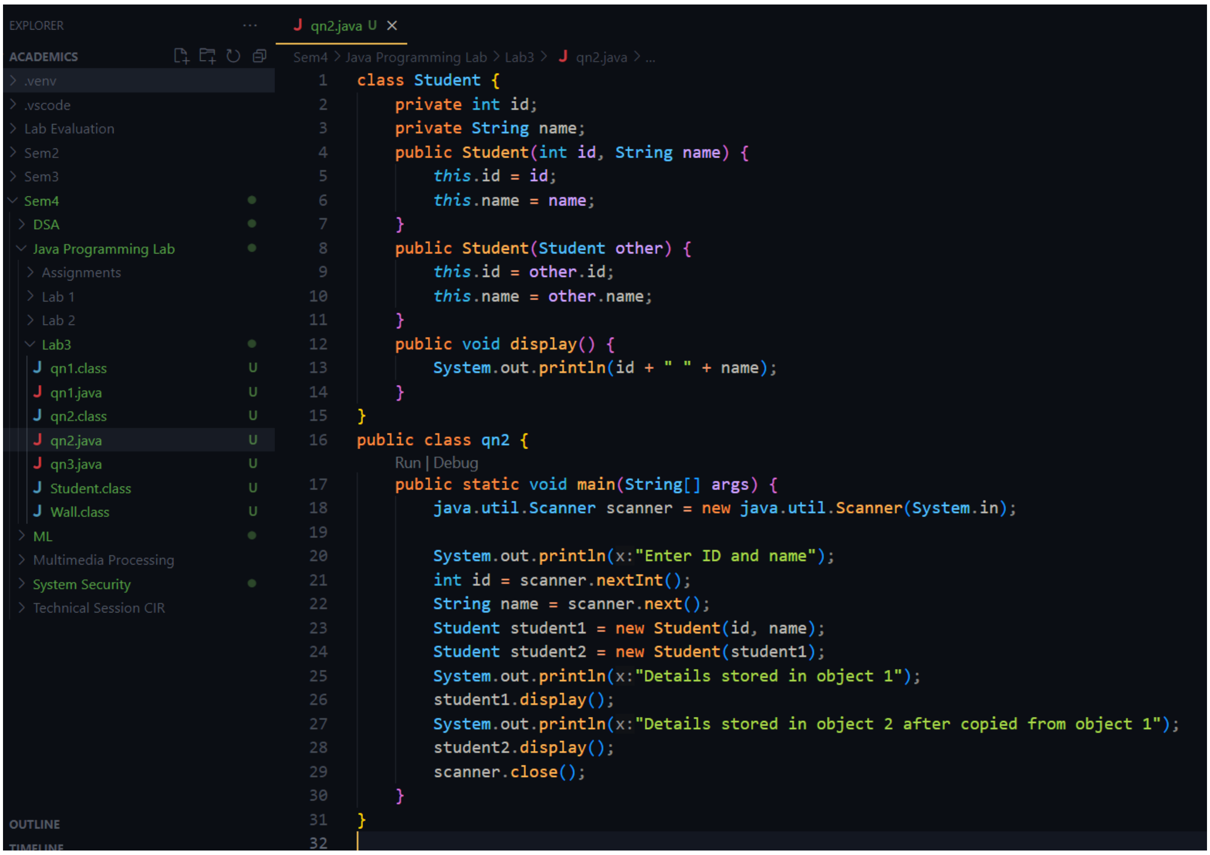
Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab3\" ; if ($?) { javac qn1.java } ; if ($?) { java qn1 }
Enter length of wall 1
32
Enter height of wall 1
25
Enter length of wall 2
15
Enter height of wall 2
30
Area of Wall 1: 800.00
Area of Wall 2: 450.00
PS D:\Academics\Sem4\Java Programming Lab\Lab3>
```

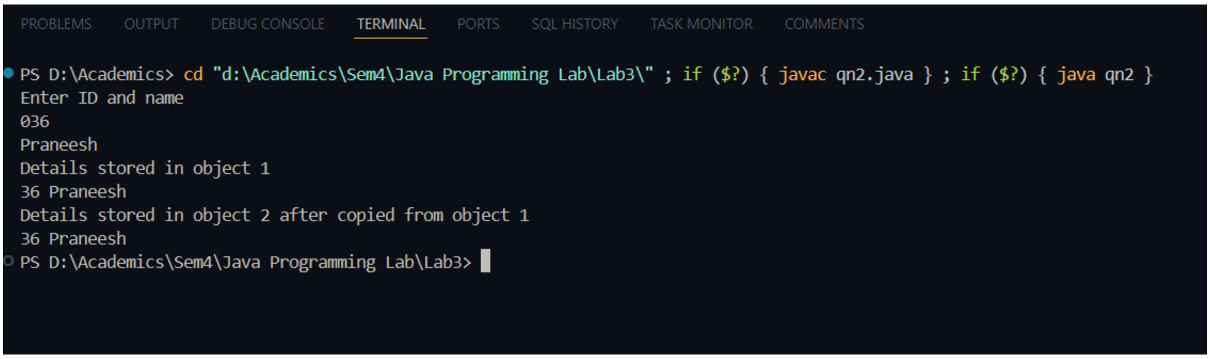
Qn2,

Code:



```java
class Student {
    private int id;
    private String name;
    public Student(int id, String name) {
        this.id = id;
        this.name = name;
    }
    public Student(Student other) {
        this.id = other.id;
        this.name = other.name;
    }
    public void display() {
        System.out.println(id + " " + name);
    }
}
public class qn2 {
    Run | Debug
    public static void main(String[] args) {
        java.util.Scanner scanner = new java.util.Scanner(System.in);

        System.out.println(x:"Enter ID and name");
        int id = scanner.nextInt();
        String name = scanner.next();
        Student student1 = new Student(id, name);
        Student student2 = new Student(student1);
        System.out.println(x:"Details stored in object 1");
        student1.display();
        System.out.println(x:"Details stored in object 2 after copied from object 1");
        student2.display();
        scanner.close();
    }
}
```

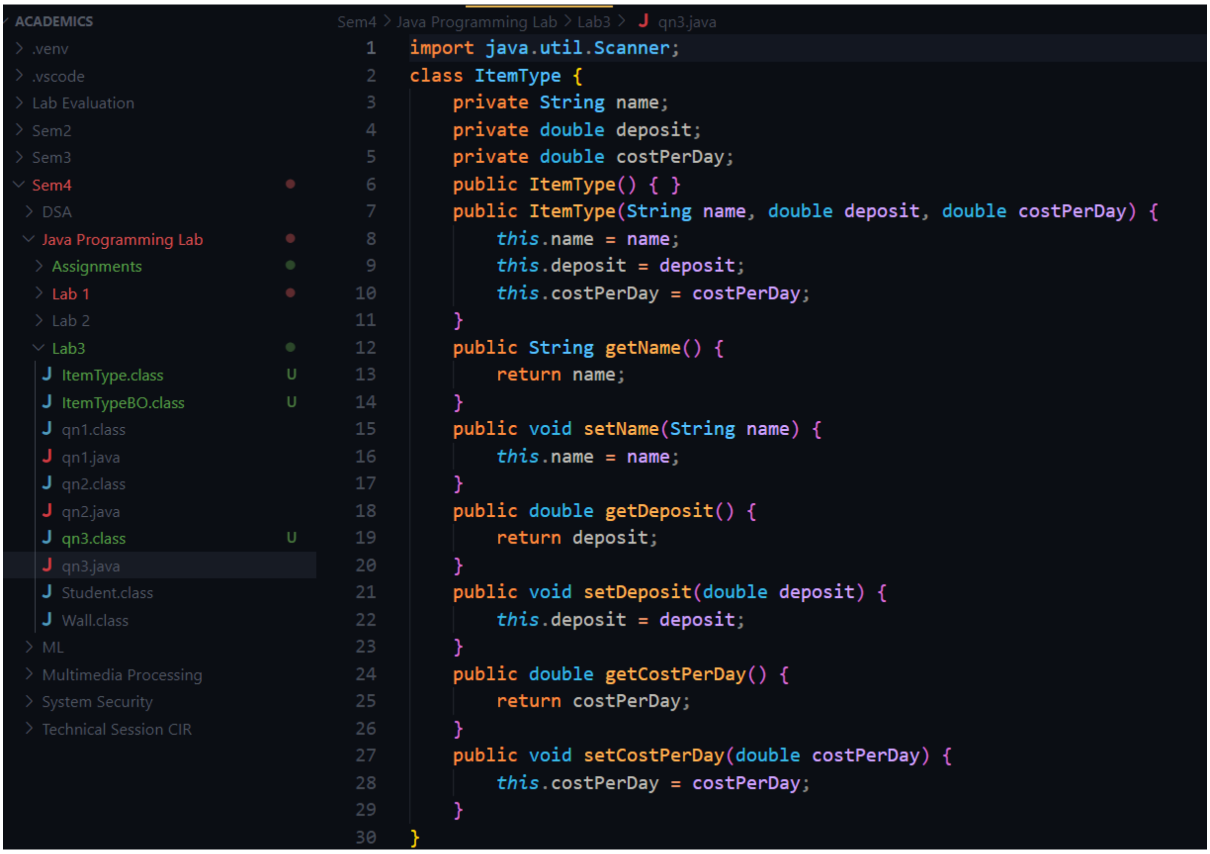
Output:



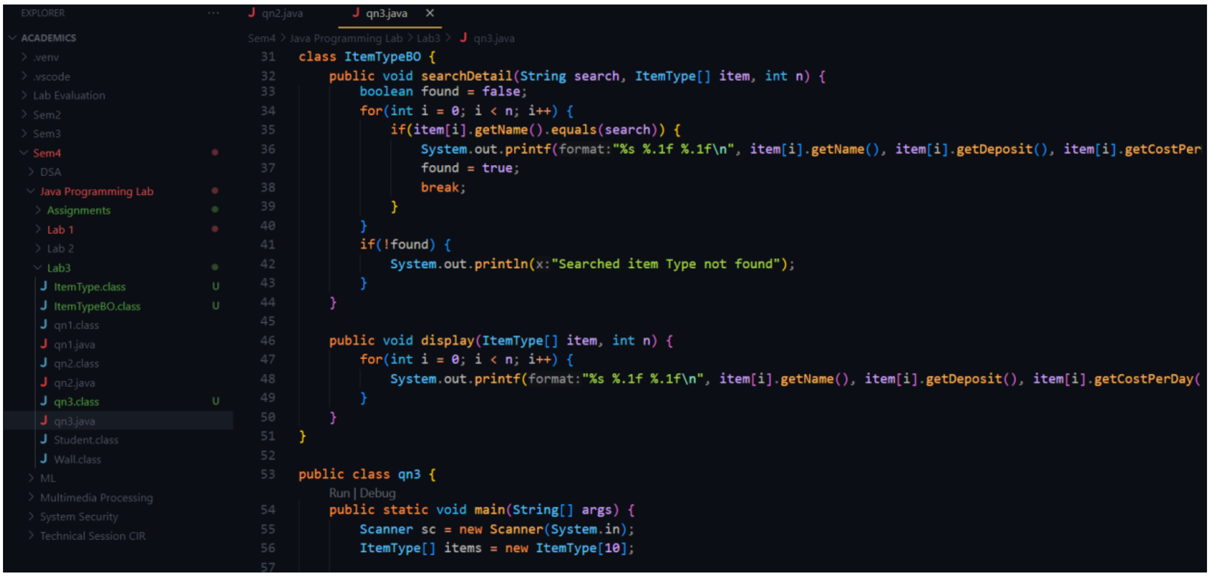
```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab3\" ; if ($?) { javac qn2.java } ; if ($?) { java qn2 }
Enter ID and name
036
Praneesh
Details stored in object 1
36 Praneesh
Details stored in object 2 after copied from object 1
36 Praneesh
PS D:\Academics\Sem4\Java Programming Lab\Lab3>
```

Qn3,

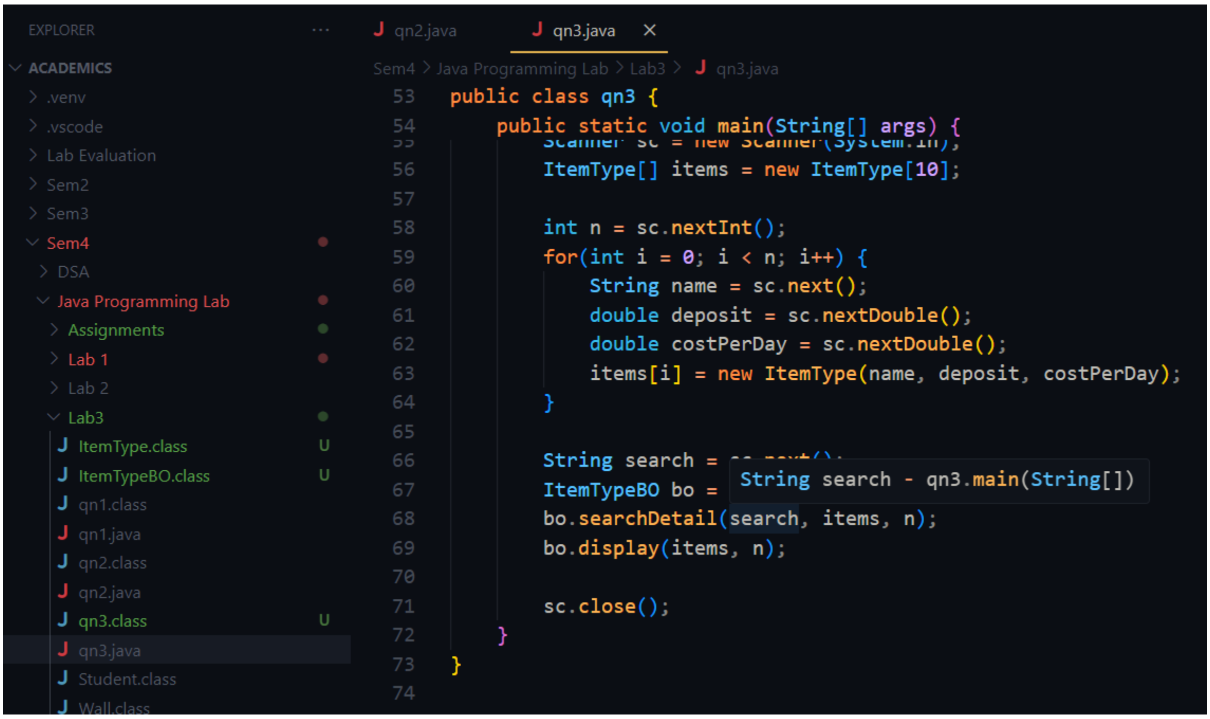
Code:



```java
import java.util.Scanner;
class ItemType {
    private String name;
    private double deposit;
    private double costPerDay;
    public ItemType() { }
    public ItemType(String name, double deposit, double costPerDay) {
        this.name = name;
        this.deposit = deposit;
        this.costPerDay = costPerDay;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public double getDeposit() {
        return deposit;
    }
    public void setDeposit(double deposit) {
        this.deposit = deposit;
    }
    public double getCostPerDay() {
        return costPerDay;
    }
    public void setCostPerDay(double costPerDay) {
        this.costPerDay = costPerDay;
    }
}
```

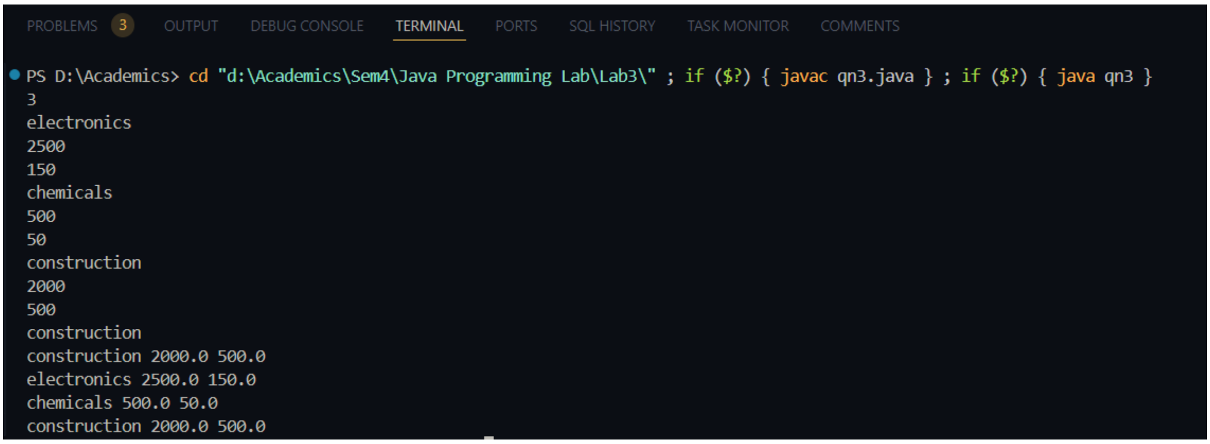


```java
class ItemTypeBO {
    public void searchDetail(String search, ItemType[] item, int n) {
        boolean found = false;
        for(int i = 0; i < n; i++) {
            if(item[i].getName().equals(search)) {
                System.out.printf(format:"%s %.1f %.1f\n", item[i].getName(), item[i].getDeposit(), item[i].getCostPer
                found = true;
                break;
            }
        }
        if(!found) {
            System.out.println(x:"Searched item Type not found");
        }
    }

    public void display(ItemType[] item, int n) {
        for(int i = 0; i < n; i++) {
            System.out.printf(format:"%s %.1f %.1f\n", item[i].getName(), item[i].getDeposit(), item[i].getCostPerDay(
        }
    }
}

public class qn3 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        ItemType[] items = new ItemType[10];
```



```
public class qn3 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        ItemType[] items = new ItemType[10];

        int n = sc.nextInt();
        for(int i = 0; i < n; i++) {
            String name = sc.next();
            double deposit = sc.nextDouble();
            double costPerDay = sc.nextDouble();
            items[i] = new ItemType(name, deposit, costPerDay);
        }

        String search = sc.next();
        ItemTypeBO bo =
        bo.searchDetail(search, items, n);
        bo.display(items, n);

        sc.close();
    }
}
```

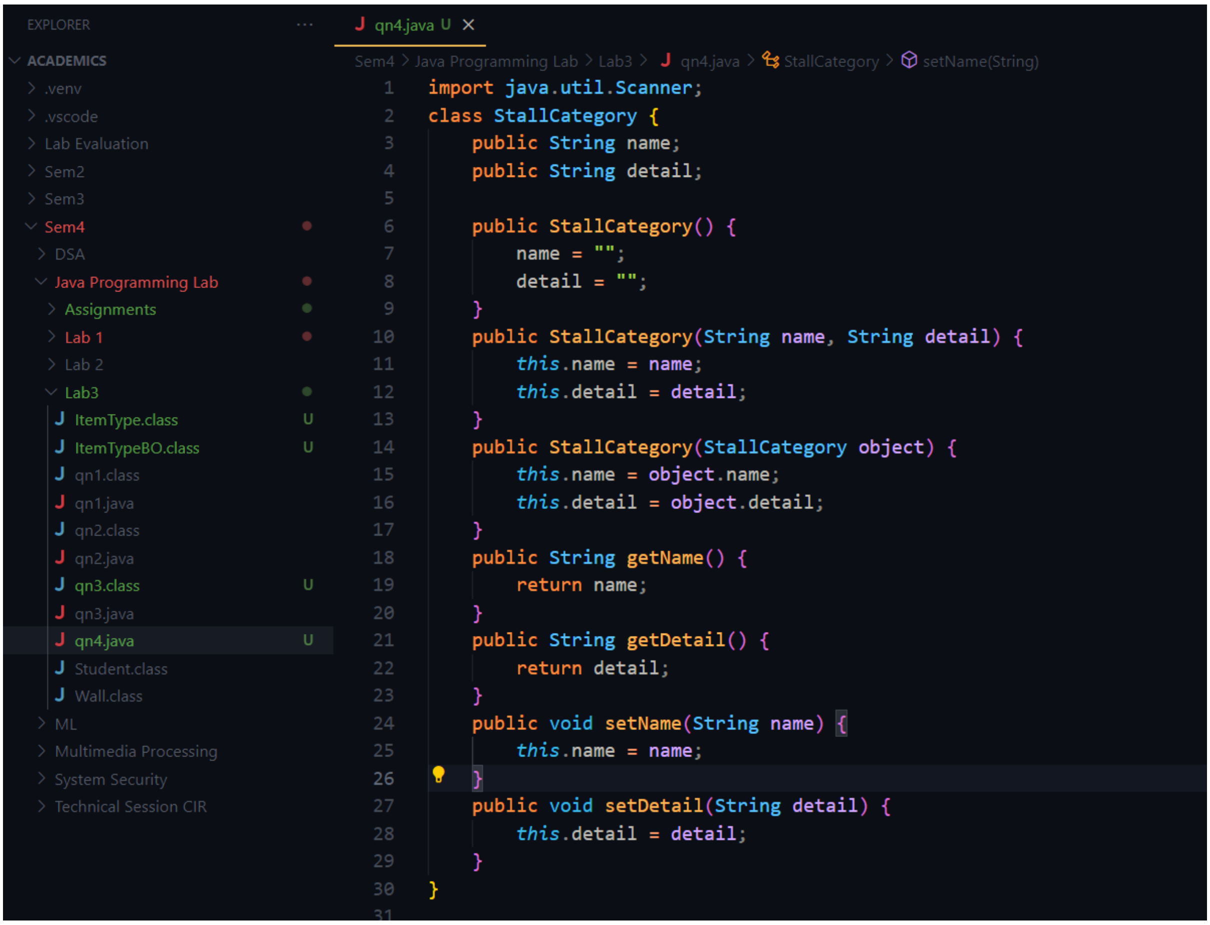
Output:



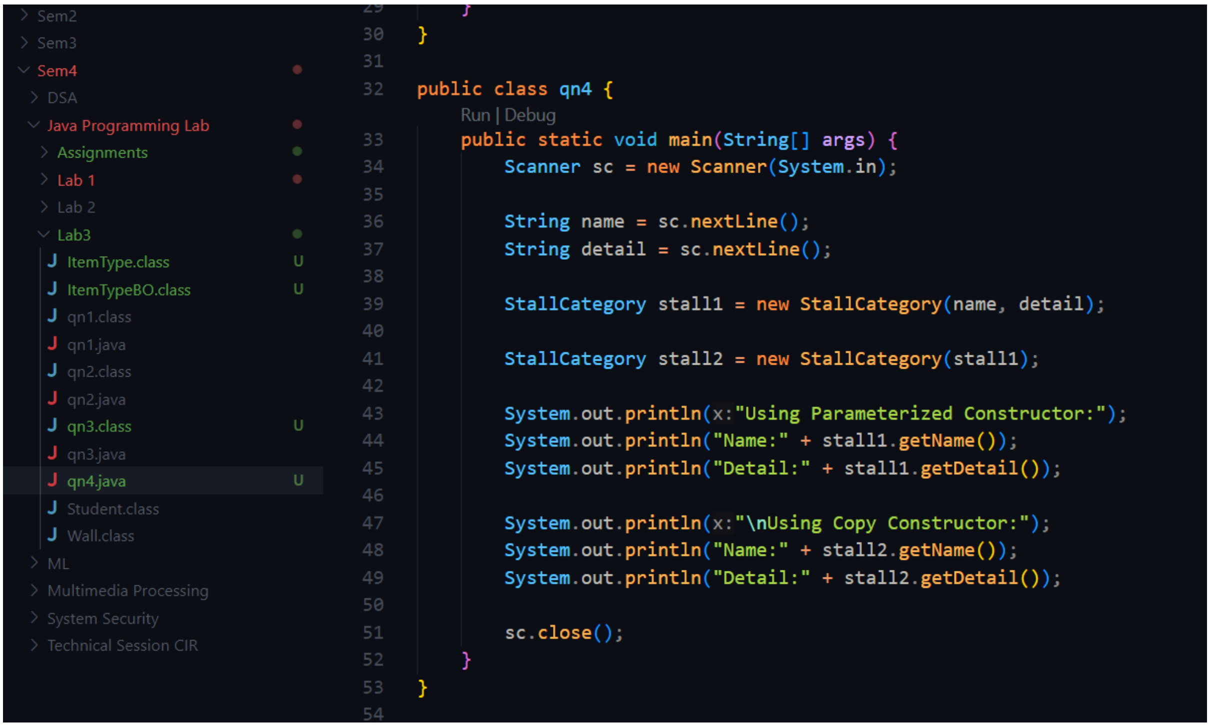
```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab3\" ; if ($?) { javac qn3.java } ; if ($?) { java qn3 }
3
electronics
2500
150
chemicals
500
50
construction
2000
500
construction
construction 2000.0 500.0
electronics 2500.0 150.0
chemicals 500.0 50.0
construction 2000.0 500.0
```

Qn4,

Code:



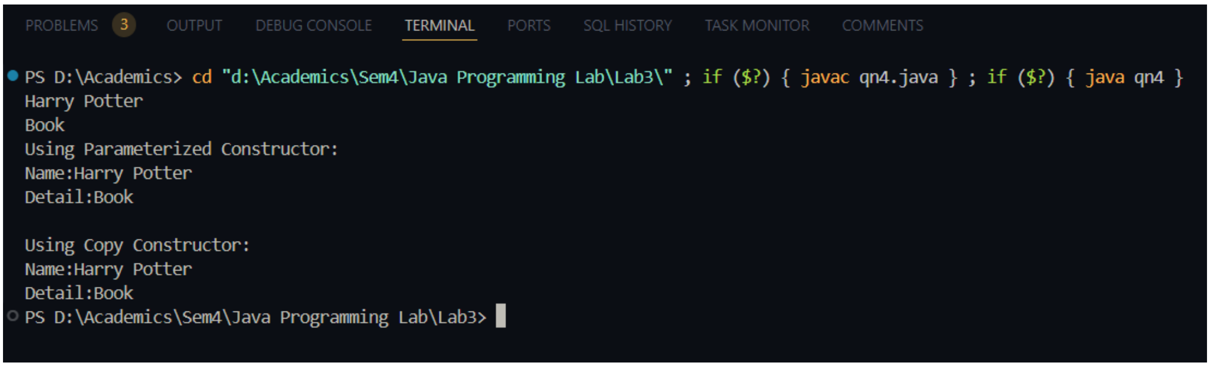
```java
import java.util.Scanner;
class StallCategory {
    public String name;
    public String detail;

    public StallCategory() {
        name = "";
        detail = "";
    }
    public StallCategory(String name, String detail) {
        this.name = name;
        this.detail = detail;
    }
    public StallCategory(StallCategory object) {
        this.name = object.name;
        this.detail = object.detail;
    }
    public String getName() {
        return name;
    }
    public String getDetail() {
        return detail;
    }
    public void setName(String name) {
        this.name = name;
    }
    public void setDetail(String detail) {
        this.detail = detail;
    }
}
```



```java
}
```

```java
public class qn4 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        String name = sc.nextLine();
        String detail = sc.nextLine();

        StallCategory stall1 = new StallCategory(name, detail);

        StallCategory stall2 = new StallCategory(stall1);

        System.out.println(x:"Using Parameterized Constructor:");
        System.out.println("Name:" + stall1.getName());
        System.out.println("Detail:" + stall1.getDetail());

        System.out.println(x:"\nUsing Copy Constructor:");
        System.out.println("Name:" + stall2.getName());
        System.out.println("Detail:" + stall2.getDetail());

        sc.close();
    }
}
```

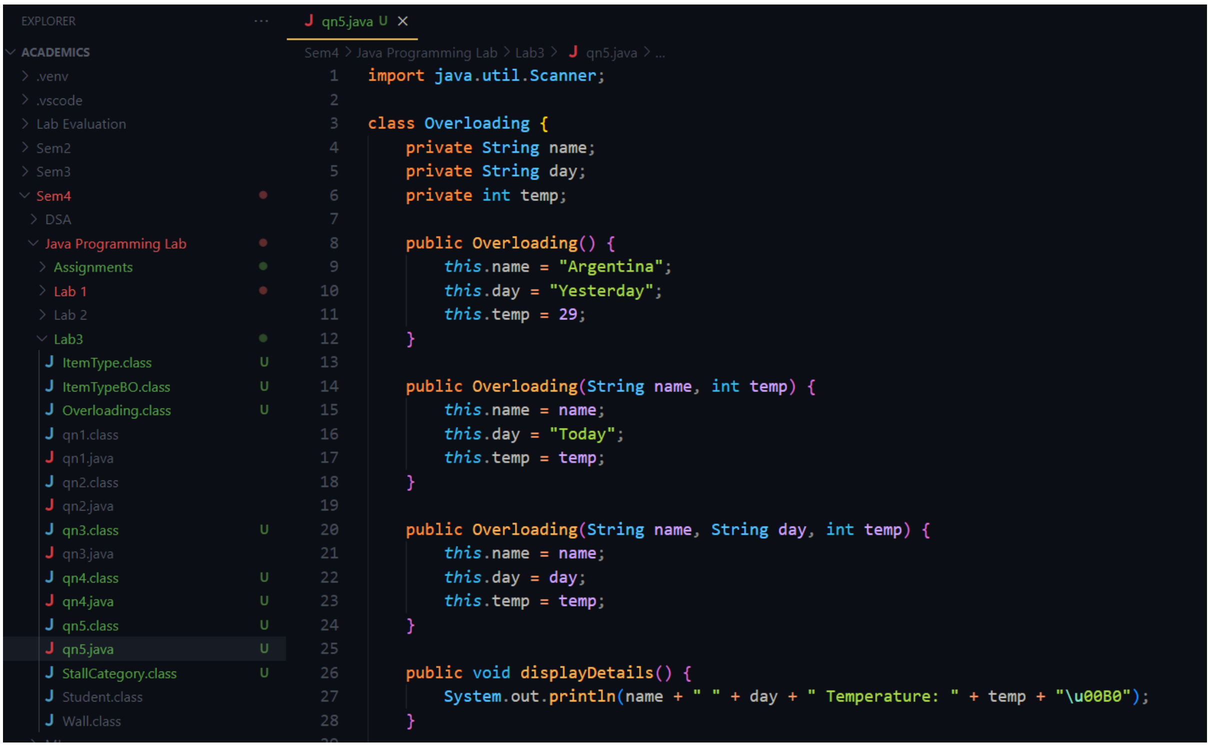
Output:



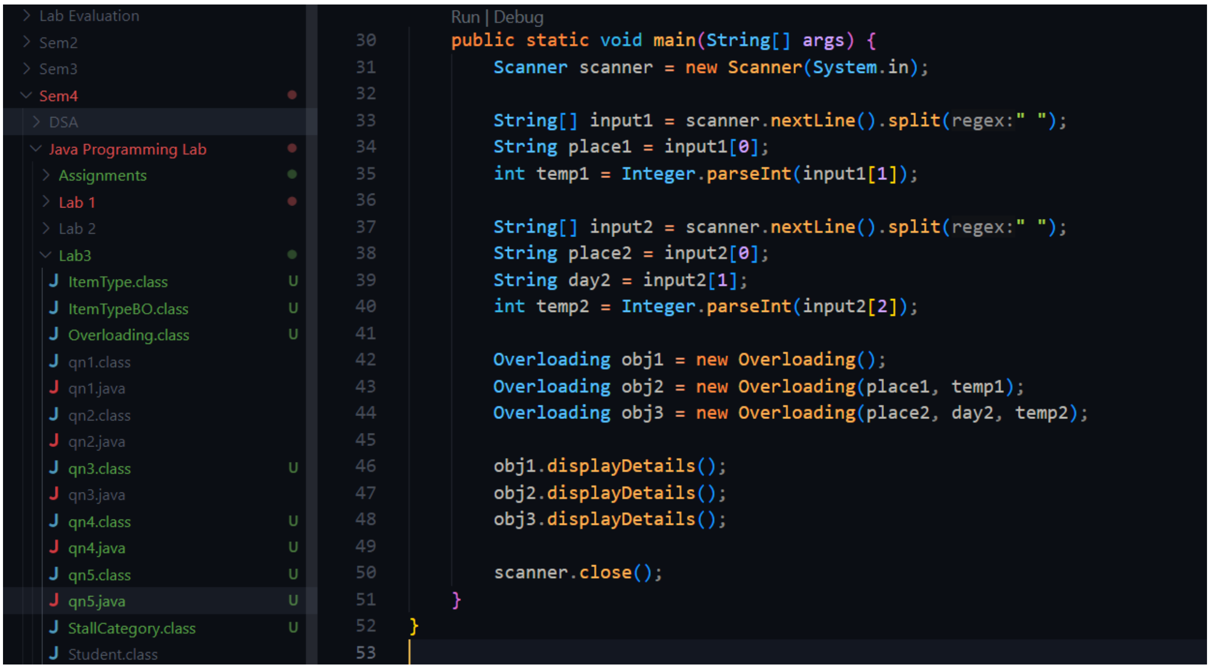
```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab3\" ; if ($?) { javac qn4.java } ; if ($?) { java qn4 }
Harry Potter
Book
Using Parameterized Constructor:
Name:Harry Potter
Detail:Book

Using Copy Constructor:
Name:Harry Potter
Detail:Book
PS D:\Academics\Sem4\Java Programming Lab\Lab3>
```

Qn5,

Code:

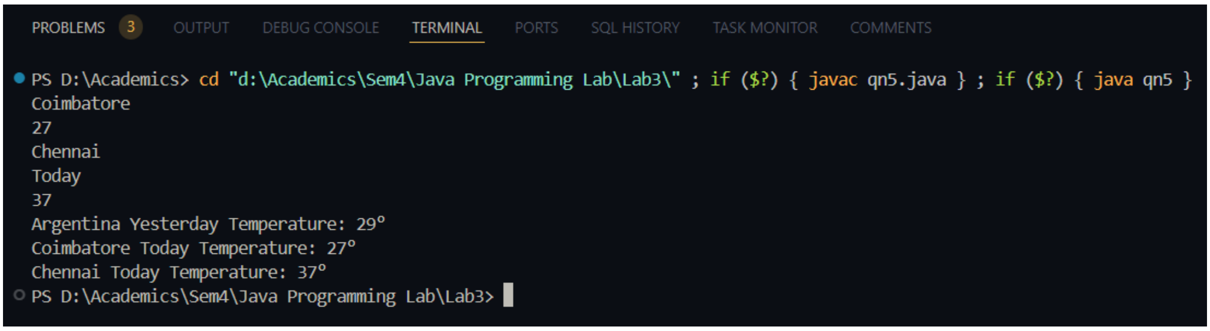


```java
import java.util.Scanner;

class Overloading {
    private String name;
    private String day;
    private int temp;

    public Overloading() {
        this.name = "Argentina";
        this.day = "Yesterday";
        this.temp = 29;
    }

    public Overloading(String name, int temp) {
        this.name = name;
        this.day = "Today";
        this.temp = temp;
    }

    public Overloading(String name, String day, int temp) {
        this.name = name;
        this.day = day;
        this.temp = temp;
    }

    public void displayDetails() {
        System.out.println(name + " " + day + " Temperature: " + temp + "\u00B0");
    }
```



```java
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        String[] input1 = scanner.nextLine().split(regex:" ");
        String place1 = input1[0];
        int temp1 = Integer.parseInt(input1[1]);

        String[] input2 = scanner.nextLine().split(regex:" ");
        String place2 = input2[0];
        String day2 = input2[1];
        int temp2 = Integer.parseInt(input2[2]);

        Overloading obj1 = new Overloading();
        Overloading obj2 = new Overloading(place1, temp1);
        Overloading obj3 = new Overloading(place2, day2, temp2);

        obj1.displayDetails();
        obj2.displayDetails();
        obj3.displayDetails();

        scanner.close();
    }
}
```

Output:



```
PS D:\Academics> cd "d:\Academics\Sem4\Java Programming Lab\Lab3\" ; if ($?) { javac qn5.java } ; if ($?) { java qn5 }
Coimbatore
27
Chennai
Today
37
Argentina Yesterday Temperature: 29°
Coimbatore Today Temperature: 27°
Chennai Today Temperature: 37°
PS D:\Academics\Sem4\Java Programming Lab\Lab3>
```