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Labtask 2

Q1
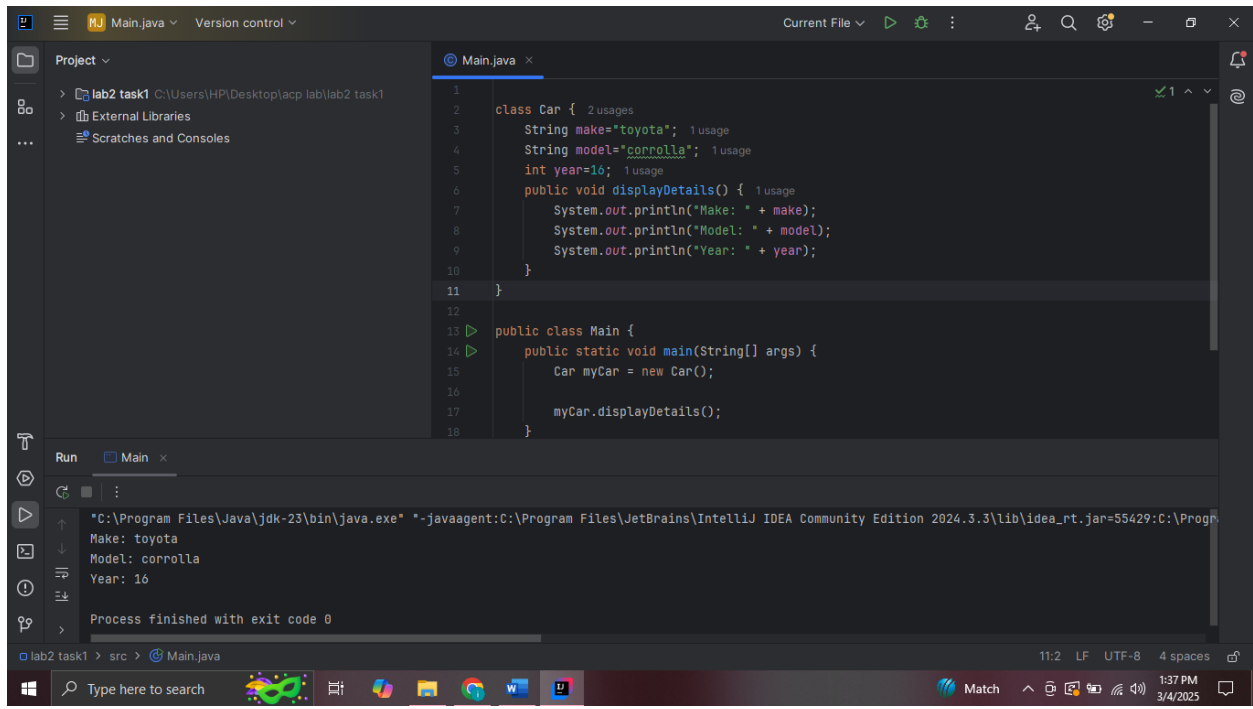
Code :

```java
class Car {
    String make="toyota";
    String model="corrolla";
    int year=16;
    public void displayDetails() {
        System.out.println("Make: " + make);
        System.out.println("Model: " + model);
        System.out.println("Year: " + year);
    }
}

public class Main {
    public static void main(String[] args) {
        Car myCar = new Car();

        myCar.displayDetails();
    }
}
```

output :

Q2

Code :

```java
class Shape {
    public double calculateArea() {
        return 0.0;
    }
}


class Circle extends Shape {
    double radius;

    public double calculateArea() {
        return 3.14 * radius * radius;
    }
}



class Rectangle extends Shape {
    private double width;
    private double height;
    public double calculateArea() {
        return width * height;
    }
}
```

```java
}

public class Main {
    public static void main(String[] args) {
        Circle circle = new Circle();
        System.out.println("Area of Circle: " + circle.calculateArea());
        Rectangle rectangle = new Rectangle();
        System.out.println("Area of Rectangle: " +
rectangle.calculateArea());
        Shape shape = new Shape();
        System.out.println("Area of Generic Shape: " +
shape.calculateArea());
    }
}
```

output :

Q3

Code :

```java
class Room {
    private double area;
    private String color;


    public void setArea(double area) {
```

```java
            this.area = area;
    }

    public double getArea() {

        return area;
    }

    public void setColor(String color) {

        this.color = color;
    }

    public String getColor() {

        return color;
    }

    public void displayRoomInfo() {
        System.out.println("Room Area: " + area + " sq. meters");
        System.out.println("Room Color: " + color);
    }
}

class House {
    private Room livingRoom;
    private Room bedroom;

    public void setLivingRoom(Room livingRoom) {
        this.livingRoom = livingRoom;
    }

    public void setBedroom(Room bedroom) {
        this.bedroom = bedroom;
    }

    public void displayHouseInfo() {
        System.out.println("House Details:");
        System.out.println("Living Room:");
        livingRoom.displayRoomInfo();
        System.out.println("\nBedroom:");
        bedroom.displayRoomInfo();
    }
}

 class HouseDemo {
    public static void main(String[] args) {

        Room livingRoom = new Room();
```

```
        livingRoom.setArea(25.5);
        livingRoom.setColor("Blue");

        Room bedroom = new Room();
        bedroom.setArea(15.0);
        bedroom.setColor("White");


        House myHouse = new House();
        myHouse.setLivingRoom(livingRoom);
        myHouse.setBedroom(bedroom);


        myHouse.displayHouseInfo();
    }
}
```

output :

Q4 :

Code :

```
class Room {
    private double area;
    private String color;
```

```java
    public void setArea(double area) {

        this.area = area;
    }

    public double getArea() {

        return area;
    }

    public void setColor(String color) {

        this.color = color;
    }

    public String getColor() {

        return color;
    }

    public void displayRoomInfo() {
        System.out.println("Room Area: " + area + " sq. meters");
        System.out.println("Room Color: " + color);
    }
}

class House {
    private Room livingRoom;
    private Room bedroom;

    public void setLivingRoom(Room livingRoom) {
        this.livingRoom = livingRoom;
    }

    public void setBedroom(Room bedroom) {
        this.bedroom = bedroom;
    }

    public void displayHouseInfo() {
        System.out.println("House Details:");
        System.out.println("Living Room:");
        livingRoom.displayRoomInfo();
        System.out.println("\nBedroom:");
        bedroom.displayRoomInfo();
    }
}

class HouseDemo {
    public static void main(String[] args) {
```

```java
        Room livingRoom = new Room();
        livingRoom.setArea(25.5);
        livingRoom.setColor("Blue");

        Room bedroom = new Room();
        bedroom.setArea(15.0);
        bedroom.setColor("White");


        House myHouse = new House();
        myHouse.setLivingRoom(livingRoom);
        myHouse.setBedroom(bedroom);


        myHouse.displayHouseInfo();
    }
}
```