Assignment 1

Mastering Advanced Java with Object-Oriented Programming

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Problem statement 1:

Implement a Java program that demonstrates single inheritance and method overriding. Create a base class "Vehicle" with attributes and methods, then derive a class "Car" from it and override certain methods.

Code:

```java
class Vehicle {
    String brand;
    int year;

    Vehicle(String brand, int year) {
        this.brand = brand;
        this.year = year;
    }

    void display() {
        System.out.println("Brand: " + brand);
        System.out.println("Year: " + year);
    }
}

class Car extends Vehicle {
    int numberOfDoors;

    Car(String brand, int year, int numberOfDoors) {
        super(brand, year);
        this.numberOfDoors = numberOfDoors;
    }

    @Override
    void display() {
        super.display();
        System.out.println("Number of doors: " + numberOfDoors);
    }
}

public class Main {
    Run | Debug
    public static void main(String[] args) {
        Car myCar = new Car(brand:"Toyota", year:2022, numberOfDoors:4);
        myCar.display();
    }
}
```

Input:

Brand: String

Year: Integer

numberOfDoors: Integer

Output:

Display() method is overridden in derived class **Car**

```
if ($?) { javac Main.java } ; if ($?) { java Main }
Brand: Toyota
Year: 2022
Number of doors: 4
```