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Object Oriented Programming I

Lab Sheet 10 Abstraction

1. Create an **abstract class** called '**Vehicle**' and create three instance variables, make (String), model (String), and year (int).
 - Create a parameterized constructor for each instance variable.
 - Create an **abstract method** called **displayInfo()**
 - Create getter methods for make, model, and year variables.
 - Create a child class called 'Car' class with one instance variable called 'numberOfDoors'
 - Create a constructor for the Car class as follows

```
public Car(String make, String model, int year, int numberOfDoors) {  
    super(make, model, year);  
    this.numberOfDoors = numberOfDoors;  
}
```

- Implementation of the abstract method for displaying car information. (method name is **displayInfo()**)
- Inside that method you need to display following details.
Car: Toyota Camry 2022
Number of Doors: 4
- Create a child class called 'Motorcycle' class with one instance variable called 'hasFairing'
- Create a constructor for the Car class as follows

```
public Motorcycle(String make, String model, int year, boolean  
hasFairing) {  
    super(make, model, year);  
    this.hasFairing = hasFairing;
```

}

- Implementation of the abstract method for displaying car information. (method name is **displayInfo()**)
- Inside that method you need to display following details.

Motorcycle: Harley-Davidson Sportster 2021

Has Fairing: Yes

- Create a Main class called '**Main**' and create an instance for Car and Motorcycle class but **store them in references of type Vehicle**'.