

Ford Motors(---RETIRED---)

Grade settings: Maximum grade: 100

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Based on: [Ford Motors\(---RETIRED---\)](#)

Run: Yes **Evaluate:** Yes

Automatic grade: Yes

Ford Motor is one of the most famous car manufacturers. They conducted a contest at the 20th LA Auto Show in Los Angeles. Ford has approached you to create software that would calculate the final price of the car based on the tax amount.

Component Specification: CustomerInfo

Type(Class)	Attributes	Methods
CustomerInfo	String customerId String customerName String carType double cost	Necessary getters, setters and constructors are provided as a part of the code skeleton.

Functional Requirement 1: Extract the details of the car order and create an object of the CustomerInfo class.

Type(Class)	Methods	Responsibilities
UserInterface	public static CustomerInfo extractDetails (String customerDetails)	This method accepts customerDetails as an argument and extract the properties from the argument. Set these values to the CustomerInfo object and return this object.

Functional Requirement2: Calculate the total amount to be paid by the customer for the car order placed.

Type(Class)	Methods	Responsibilities
CustomerInfo	public double calculateBillAmount()	<p>This method is used to calculate the total amount to be paid by the customer.</p> <p>If the carType is a Hatch Back, the tax is 1% of the cost.</p> <p>If the carType is a a Sedan, the tax is 2% of the cost.</p> <p>If the carType is an SUV, the tax is 3% of the cost.</p> <p>If the carType is an MUV, the tax is 4% of the cost.</p> <p>Condition:</p> <ul style="list-style-type: none"> • <i>carType is case-insensitive.</i> • <i>If the carType is invalid, the method should return -1.</i>

Formula to calculate the total amount to be paid:

Total amount to be paid = cost + tax amount

The main method in the UserInterface class is excluded from the evaluation. You are free to write your own code in the main method to invoke the business methods to check its correctness.

Note:

- In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user and the rest of the text represents the output.
- Ensure to follow the object-oriented specifications provided in the question.
- Ensure to provide the names for classes, attributes, and methods as specified in the question.

- Adhere to the code template, if provided.

Sample Input / Output 1:

Enter the car details

FZ123:John:suv:300000

Car Details

Customer Id : FZ123

Customer Name : John

Car Type : suv

Total Amount to be paid : 309000.0

Sample Input / Output 2:

Enter the car details

GH345:Mariam:sedan:250000

Car Details

Customer Id : GH345

Customer Name : Mariam

Car Type : sedan

Total Amount to be paid : 255000.0

Sample Input / Output 3:

Enter the car details

PQ123:Larry:abc:12345

Invalid details

Qualifier Assessment Ford Motor: x +

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File List Save All Compile & Run Evaluate Reset Restore Description

File list

- FordMotors
 - src
 - CustomerInfo
 - UserInterface

CustomerInfo.java

```
1 public class CustomerInfo {
2
3     private String customerId;
4     private String customerName;
5     private String carType;
6     private double cost;
7
8     public String getCustomerId() {
9         return customerId;
10    }
11
12    public void setCustomerId(String customerId) {
13        this.customerId = customerId;
14    }
15
16    public String getCustomerName() {
17        return customerName;
18    }
19
20    public void setCustomerName(String customerName) {
21        this.customerName = customerName;
22    }
23
24    public String getCarType() {
25        return carType;
26    }
27
28    public void setCarType(String carType) {
29        this.carType = carType;
30    }
31
32    public double getCost() {
33        return cost;
34    }
35
36    public void setCost(double cost) {
37        this.cost = cost;
38    }
39 }
```

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Qualifier Assessment Ford Motor: x +

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CustomerInfo.java

```
23
24    public String getCarType() {
25        return carType;
26    }
27
28    public void setCarType(String carType) {
29        this.carType = carType;
30    }
31
32    public double getCost() {
33        return cost;
34    }
35
36    public void setCost(double cost) {
37        this.cost = cost;
38    }
39
40    public CustomerInfo() {
41        super();
42    }
43
44    public CustomerInfo(String customerId, String customerName, String carType, double cost) {
45        super();
46        this.customerId = customerId;
47        this.customerName = customerName;
48        this.carType = carType;
49        this.cost = cost;
50    }
51
52    public double calculateBillAmount()
53    {
54        // Fill the code
55        return 0;
56    }
57
58 }
59 }
```

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