

IT-130

Oil Change Service Program

1. Create a Java class, OilChange1.java, for a car service shop. The program should prompt the user for the following inputs.
 - License Plate Number (String)
 - Vehicle Make (String)
 - Vehicle Model (String)
 - Vehicle Year (int)
 - Vehicle Color (String)
 - Vehicle Mileage (double)

The program will then display an output including the following information.

- License Plate Number
- Make
- Model
- Year
- Color
- Mileage

Sample Runs:

```
> run OilChange1
Oil Change Service
Enter Lincense Plate Number: ABC-1234
Enter Vehicle Make: Toyota
Enter Vehicle Model: Yaris
Enter Vehicle Year: 2013
Enter Vehicle Color: Blue
Enter Vehicle Mileage: 12000.5

Vehicle Information:
Lincense Plate: ABC-1234
Make/Model: Toyota Yaris
Year: 2013
Color: Blue
Mileage 12000.5
>
```

2. Create OilChange2.java a by modifying the OilChange1.java so that it prompts the user to enter a service package as an integer to define a service fee.

Service Package	Service Fee
Conventional Oil	31.99
High-Mileage Oil	49.99
Synthetic Oil	75.99

Modify the output so that it also displays the service fee which includes 10% tax at the end of print out.

Note: You must include Java code to perform mathematic operations which calculate the sale taxes and total service fees based on the package selected.

Sample Run 1:

```
> run OilChange2
Oil Change Service
Enter Lincense Plate Number: ABC-1234
Enter Vehicle Make: Toyota
Enter Vehicle Model: Yaris
Enter Vehicle Year: 2013
Enter Vehicle Color: Blue
Enter Vehicle Mileage: 12000.5
Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
1
Vehicle Information:
Lincense Plate: ABC-1234
Make/Model: Toyota Yaris
Year: 2013
Color: Blue
Mileage 12000.5
Your Service Fee (Tax included): $35.19
>
```

Sample Run 2:

```
> run OilChange2
Oil Change Service
Enter Lincense Plate Number: ABC-2345

Enter Vehicle Make: Ford

Enter Vehicle Model: F-150

Enter Vehicle Year: 2015

Enter Vehicle Color: Red

Enter Vehicle Mileage: 6000.0

Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
2

Vehicle Information:
Lincense Plate: ABC-2345
Make/Model: Ford F-150
Year: 2015
Color: Red
Mileage 6000.0
Your Service Fee (Tax included): $54.99
>
```

Sample Run 3:

```
> run OilChange2
Oil Change Service
Enter Lincense Plate Number: ABC-4567

Enter Vehicle Make: BMW

Enter Vehicle Model: X5

Enter Vehicle Year: 2014

Enter Vehicle Color: Brown

Enter Vehicle Mileage: 14200.7

Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
3

Vehicle Information:
Lincense Plate: ABC-4567
Make/Model: BMW X5
Year: 2014
Color: Brown
Mileage 14200.7
Your Service Fee (Tax included): $83.59
>
```

3. Create OilChange3.java a by modifying the OilChange2.java so that it repeats the whole task for 3 times by using a loop.

Sample Run:

```
> run OilChange3
Oil Change Service
Enter Lincense Plate Number: ABC-1234

Enter Vehicle Make: Toyota
Enter Vehicle Model: Yaris
Enter Vehicle Year: 2013
Enter Vehicle Color: Blue
Enter Vehicle Mileage: 12000.5

Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
1

Vehicle Information:
Lincense Plate: ABC-1234
Make/Model: Toyota Yaris
Year: 2013
Color: Blue
Mileage 12000.5
Your Service Fee (Tax included): $35.19
Enter Lincense Plate Number: ABC-2345

Enter Vehicle Make: Ford
Enter Vehicle Model: F150
Enter Vehicle Year: 2015
Enter Vehicle Color: Red
Enter Vehicle Mileage: 6000.0

Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
2

Vehicle Information:
Lincense Plate: ABC-2345
Make/Model: Ford F150
Year: 2015
Color: Red
Mileage 6000.0
Your Service Fee (Tax included): $54.99
Enter Lincense Plate Number: ABC-4567

Enter Vehicle Make: BMW
Enter Vehicle Model: X5
Enter Vehicle Year: 2014
Enter Vehicle Color: Brown
Enter Vehicle Mileage: 14200.7

Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
3

Vehicle Information:
Lincense Plate: ABC-4567
Make/Model: BMW X5
Year: 2014
Color: Brown
Mileage 14200.7
Your Service Fee (Tax included): $83.59
>
```

4. Create OilChange4.java by modifying the OilChange3.java so that the program asks whether the user would like to continue or not by prompting the user to enter 1 to repeat or 0 to stop the process.

Sample Run:

```
> run OilChange4
Oil Change Service
Enter Lincense Plate Number:
ABC-1234
Enter Vehicle Make:
Toyota
Enter Vehicle Model:
Yaris
Enter Vehicle Year:
2013
Enter Vehicle Color:
Blue
Enter Vehicle Mileage:
12000.5
Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
1
Vehicle Information:
Lincense Plate: ABC-1234
Make/Model: Toyota Yaris
Year: 2013
Color: Blue
Mileage 12000.5
Your Service Fee (Tax included): $35.19
Another Vehicle? Enter 1 to Continue: 0 to Exit
1
Enter Lincense Plate Number:
ABC-5678
Enter Vehicle Make:
BMW
Enter Vehicle Model:
X5
Enter Vehicle Year:
2014
Enter Vehicle Color:
Brown
Enter Vehicle Mileage:
14200.7
Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
3
Vehicle Information:
Lincense Plate: ABC-5678
Make/Model: BMW X5
Year: 2014
Color: Brown
Mileage 14200.7
Your Service Fee (Tax included): $83.59
Another Vehicle? Enter 1 to Continue: 0 to Exit
0
Thank you and have a nice day.
>
```

5. Create OilChange5.java by modifying the OilChange4.java so that the program displays the following additional information.
- A mileage of next service due. Here is the next service due for each package.

Service Package	Next Service Due
Conventional Oil	Next 3000 Miles
High-Mileage Oil	Next 5000 Miles
Synthetic Oil	Next 7000 Miles

- Grand total service fee which is the total of all service fee.

Sample Run:

```
> run OilChange5
Oil Change Service
Enter Lincense Plate Number: ABC-1234
Enter Vehicle Make: Toyota
Enter Vehicle Model: Yaris
Enter Vehicle Year: 2013
Enter Vehicle Color: Blue
Enter Vehicle Mileage: 12000.5
Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
1
Vehicle Information:
Lincense Plate: ABC-1234
Make/Model: Toyota Yaris
Year: 2013
Color: Blue
Mileage: 12000.5
Your Service Fee (Tax included): $35.19
Your Next Service Due: 15000.5 miles
Another Vehicle? Enter 1 to Continue: 0 to Exit 1
Enter Lincense Plate Number: ABC-5678
Enter Vehicle Make: BMW
Enter Vehicle Model: X5
Enter Vehicle Year: 2014
Enter Vehicle Color: Brown
Enter Vehicle Mileage: 14200.7
Select a service package:
1. Conventional Oil
2. High-Mileage Oil
3. Synthetic Oil
3
Vehicle Information:
Lincense Plate: ABC-5678
Make/Model: BMW X5
Year: 2014
Color: Brown
Mileage: 14200.7
Your Service Fee (Tax included): $83.59
Your Next Service Due: 21200.7 miles
Another Vehicle? Enter 1 to Continue: 0 to Exit 0
Grand Total Fee: $118.78
Thank you and have a nice day.
>
```