



Objects & Classes



Simple Class (5Pts)

Create a simple class called Car which has three methods and at least three variables. (You may need to add more ;).

variables:

(make, model, year)

Methods (there is one missing).

moveForward - take in 1 parameter and "moves the x miles"

moveBackward - take in 1 parameter and "moves the x miles"

start - dont move the car unless its been started

stop - stop moving the car.

You should have a public class as follows

```
public class TestCar {
```

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

```
//instantiate a new instance of Car and call the variable c
```

```
        c.start();
        c.moveForward(6);
        c.moveBackward(2);
        c.moveForward(4);
        System.out.println(" The car went " + c.mileage() + " miles.");
    }
```

Points: 5 Pts;



Next Class (5 Pts)

Create accessor methods (get & set), which will set and get each variable in your class above. For example: getMake() returns the make of the Car. setYear(int y) will set the cars year.

Also Create three constructors for the class above.

Constructor 1: Takes one parameter [Year

Constructor 2: Takes two parameters [Year, Make]

Constructor 2: Takes three parameters [Year, Make, Model]

then you should add in your public class from above

the following

```
System.out.println("The make of the car is : " + c.getMake() );
```

```
System.out.println("The model of the car is : " + c.getModel() );  
System.out.println("The year of the car is : " + c.getYear() );
```

Pts: 5Pts.



More Advanced Stuff (3Pts)

Create a class called Vehicle which will have the functions called moveForward , moveBackward, and start and stop. Then extend your Car class properly so that it uses these functions.

Pts: 3



Another Class (10Pts)

Create another class called Boat

This class should basically do the same things that Car does, but it cannot move backwards. There is no 'model' only a make and a year.

Also while the care calculated the items in miles. You must calculate its distances in Nautical Miles (1.1508 Miles = 1 NM)

You should not repeat and functions or variables that can be reused.

Pts: 10 Pts.