

# TINKER ACADEMY

## AP Computer Science Prep (Java DS & Algo)

### Homework 2: Classes, Objects and Methods

**Make sure you read the Handout slides!**

#### Overview

In this Homework you will define a new class define fields and methods in the class. You might need to refer to the Handout slides for Week 2 to complete this homework. The Handout slides for Week 2 can be accessed from TinkerCourses.

#### Open the Homework

##### Import Java Project

1. Open File Manager
2. Navigate to TinkerCourses, TA-JAV-3, homework2
3. Right Click, extract Homework2.zip
4. Double click to Open eclipse (under Tinker Apps)
5. Right click over Package Explorer
6. Import...
7. Select extracted folder Homework2

#### Before you begin

Keep the handout slides for Week 2 (OOP Part 1) open

##### Structure of the Program

Homework2 is an Eclipse Java Project. The Project has

1. A Java Source File called "Homework2.java"
2. The Homework2 class contains the main method

## Complete the Homework

### Homework Part 1

Define a new class Vehicle

Follow the instructions in the Handout slides (OOP Part 1) to create the class

### Homework Part 2

Define a field **type** to the class Vehicle

```
private String type;
```

Define the following methods to the class Vehicle

```
public void setType(String type) {  
    this.type = type;  
}  
  
public String getType() {  
    return type;  
}
```

Define a field **numberOfDoors** to the class Vehicle

```
private int numberOfDoors;
```

Define the following methods to the class Vehicle

```
public void setNumberOfDoors(int type) {  
    this.type = type;  
}  
  
public int getNumberOfDoors() {  
    return type;  
}
```

Follow the instructions in the Handout Slides (OOP Part 1) to declare the fields and the 2 methods.

Remember that fields always start with a lowercase letter.

### Homework Part 3

Define a method **describe** to the class Vehicle

```
public void describe() {  
    System.out.println("Vehicle is of type " + type + " with " + numberOfDoors + " doors");  
}
```

### Homework Part 4

Add the highlighted code in the **main method in Homework2.java** to create Vehicle objects

```
public static void main(String[] args) {  
    Vehicle sedan = new Vehicle();  
    sedan.setType("sedan");  
    sedan.setNumberOfDoors(4);  
    sedan.describe();  
  
    Vehicle coupe = new Vehicle();  
    coupe.setType("coupe");  
    coupe.setNumberOfDoors(2);  
    coupe.describe();  
}
```

### Run the program in Eclipse

Follow the instructions in the Handout Slides (OOP Part 1) to add the code in the main method and to run the program.

If all is good, you should see the following output on running the program

```
Vehicle is of type sedan with 4 doors  
Vehicle is of type coupe with 2 doors
```

Submit the Homework

Submit your changes

1. Make sure you are on the Home WiFi.
2. Save All your changes
3. Open File Manager
4. Click TinkerSetup
5. Double Click "Course Submit"

All the Best!