

# Solution Review: Playing with Cars and Engines!

This lesson provides the solution to the challenge, "Playing with Cars and Engines!" with an explanation.

## WE'LL COVER THE FOLLOWING ^

- Solution
- Explanation

## Solution #

```
// Car class
class Car {

    // Declaring data members and methods
    private int id;
    private String model;
    private String color;

    public void carFeatures() { // Function to print out car features
        System.out.println("Car Model: " + model);
        System.out.println("Car Color: " + color);
    }

    public void setModel(String model) {
        this.model = model;
    }

    public void setColor(String color) {
        this.color = color;
    }

}

// Toyota Class, which is a child class of Car class.
class Toyota extends Car {

    // Inherits all properties of Car class
    public void setStart() {
        // Declaring an engine object and calling the start() function of the engine.
        ToyotaEngine engine = new ToyotaEngine();
        engine.start();
    }

}
```

```
// Engine class
class ToyotaEngine {

    // This function simply prints out on screen that Engine has been started!
    public void start() {
        System.out.println("Engine has been started.");
    }

    // This function simply prints out on screen that Engine has been stopped!
    public void stop() {
        System.out.println("Engine has been stopped.");
    }

}

class Main {

    public static void main(String[] args) {
        // Declaring and initializing Toyota object
        Toyota t = new Toyota();
        t.setModel("Fortuner");
        t.setColor("Silver");

        t.carFeatures();
        t.setStart();
    }

}
```



## Explanation #

- Line 25: Extended `Toyota` class from `Car` class.
- Line 28: In the `setStart()` function, we've declared an instance of `ToyotaEngine()` which is now bounded with the instance of `Toyota` class.
- Line 55: We are declaring a `Toyota` object, named `t`.
- Line 59: Calling `carFeatures()` of the “`t`” object, after initializing its *model* and its *color* above.
- Line 60: We are then calling the `start()` function of `ToyotaEngine()` through the instance of `Toyota` i.e. `t`.