SWIFT: THE LANGUAGE OF IOS DEVELOPMENT

Section 6 Exercise

```swift
import UIKit

class Vehicle{
    var speed:Int
    var direction:Int
    var weight:Int
    var color:String
    var running:Bool

    init(speed:Int, direction:Int, weight: Int, color:String){
        self.speed = speed
        self.direction = direction
        self.weight = weight
        self.color = color
        self.running = false
    }

    func accelerate()-> Int{
        if(self.running){
            self.speed += 1
        }
        return speed
    }
    func brake() -> Int{
        if(self.running){
            if(self.speed > 0){
                self.speed -= 1
            }
        }
        return speed
    }
    func turnLeft(){
        if(self.direction == 0){
            self.direction = 359
        } else {
            self.direction -= 1
        }
    }
}
```

1. Create a new playground file and title it **Section 6.playground**.

2. Key in the code for the Vehicle class that appears on the left. Be very careful no to introduce any typos or errors while keying in the code.

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class Vehicle{
    var speed:Int
    var direction:Int
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    init(speed:Int, direction:Int, weight: Int, color:String){
        self.speed = speed
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    func accelerate()-> Int{
        if(self.running){
            self.speed += 1
        }
        return speed
    }
    func brake() -> Int{
        if(self.running){
            if(self.speed > 0){
                self.speed -= 1
            }
        }
        return speed
    }
    func turnLeft(){
        if(self.direction == 0){
            self.direction = 359
        } else {
            self.direction -= 1
        }
    }
}
```

3. Create a new playground file and title it **Section 6.playground**.

At the end of your code create two instances of the Vehicle class using the information below:

Instance Name	myCar	yourCar
Speed	35	0
Direction	90	270
Weight	3000	2800
Color	Black	White

Run the accelerate() method on each instance ten times and output the final speed.

```
            self.direction -= 1
        }
    }
}

var myCar = Vehicle(speed:35,direction:90,weight:3000,color:"Black")
var yourCar = Vehicle(speed:0,direction:270,weight:2800,color:"White")

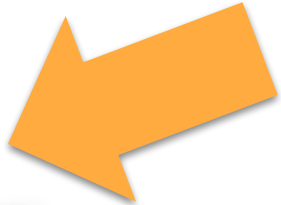
var x = 1
while (x < 11){
    myCar.accelerate()
    yourCar.accelerate()
    x += 1
}

print("Speed of myCar: " + String(myCar.speed))
print("Speed of yourCar: " + String(yourCar.speed))
```

SOLUTION

```
Speed of myCar: 45
Speed of yourCar: 10
```

```
28                }
29            }
30            return speed
31        }
32        func turnLeft(){
33            if(self.direction == 0){
34                self.direction = 359
35            } else {
36                self.direction -= 1
37            }
38        }
39    }
40
41
42
43
44
45
46
47
48
```



4. Create a subclass called **Ambulance** which inherits from **Vehicle**. The Ambulance class should have all the properties and methods of Vehicle and, additionally, a method to sound the siren.

5. Create an instance of Ambulance and sound the siren.

WHHOOOOOOOOOOO!

```
28                }
29            }
30            return speed
31        }
32        func turnLeft(){
33            if(self.direction == 0){
34                self.direction = 359
35            } else {
36                self.direction -= 1
37            }
38        }
39    }
40
41    class Ambulance:Vehicle {
42        func soundSiren(){
43            print("WHHOOOOOOOOOOOO!")
44        }
45    }
46
47    var emerVehicle = Ambulance(speed: 0, direction: 0, weight: 6000, color:"White")
48    emerVehicle.soundSiren()
```

WHHOOOOOOOOOOOO!