Object Oriented Challenge (Homework)

By: Mahad Osman!

Part One

Create a class for vehicle. Each vehicle instance should have the following properties:

> makemodelyear

Each vehicle instance should have access to a method called ***honk***, which returns the string “Beep.”

```
let myFirstVehicle = new Vehicle("Honda", "Monster Truck", 1999);
myFirstVehicle.honk(); // "Beep."
```

Each vehicle instance should have a method called toString, which returns the string containing the make, model and year.

```
let myFirstVehicle = new Vehicle("Honda", "Monster Truck", 1999);
myFirstVehicle.toString(); // "The vehicle is a Honda Monster Truck from 1999."
```

Part Two

Create a class for a car. The ***Car*** class should inherit from ***Vehicle*** and each car instance should have a property called ***numWheels*** which has a value of 4.

```
let myFirstCar = new Car("Toyota", "Corolla", 2005);
myFirstCar.toString(); // "The vehicle is a Toyota Corolla from 2005." myFirstCar.honk();
// "Beep." myFirstCar.numWheels; // 4
```

Part Three

Create a class for a Motorcycle. This class should inherit from ***Vehicle*** and each motorcycle instance should have a property called ***numWheels*** which has a value of 2.

It should also have a ***revEngine*** method which returns “VROOM!!!”

```
let myFirstMotorcycle = new Motorcycle("Honda", "Nighthawk", 2000);

myFirstMotorcycle.toString();
// "The vehicle is a Honda Nighthawk from 2000." myFirstMotorcycle.honk();      //
"Beep." myFirstMotorcycle.revEngine();  // "VROOM!!!" myFirstMotorcycle.numWheels;   // 2
```

Part Four

Create a class for a Garage. It should have a property called ***vehicles*** which will store an array of vehicles, and a property called ***capacity*** which is a number indicating how many vehicles will fit in the garage. When you create a garage, ***vehicles*** will always be empty; you only need to provide the ***capacity***.

A garage should also have an ***add*** method, which attempts to add a vehicle to the array of vehicles. However, if you try to add something which is *not* a vehicle, the garage should return the message “Only vehicles are allowed in here!”. Also, if the garage is at capacity, it should say “Sorry, we’re full.”

```
let garage = new Garage(2);
garage.vehicles;  // [] garage.add( new Car("Hyundai", "Elantra", 2015));  // "Vehicle
added!" garage.vehicles;  // [Car] garage.add("Taco");  // "Only vehicles are allowed in
here!" garage.add( new Motorcycle("Honda", "Nighthawk", 2000));
// "Vehicle added!" garage.vehicles;  // [Car, Motorcycle] garage.add( new
Motorcycle("Honda", "Nighthawk", 2001));
// "Sorry, we're full."
```

```
//Part one!
class makeVehicle{
    constructor(make, model, year){
        this.make = make;
        this.model = model;
        this.year = year;
    }

    honk(){
        return "Beep!";
    }
    toString(){
        return `The vehicle is a ${this.make} ${this.model} from ${this.year}`;
    }
}

//Part two!
class Car extends makeVehicle{
    constructor(make,model,year){
```

```
        super(make,model,year);
        this.numWheels = 4;
    }
}

//Part three!
class Motorcycle extends makeVehicle{
    constructor(make,model,year){
        super(make,model,year);
        this.numWheels = 2;
    }
revEngine(){
        return "VROOM!!!"
    }
}

//Part four!
class Garage{
    constructor(capacity){
        this.capacity = capacity;
        this.vehicles = [];
    }

    add(newToy){
        if  (!(newToy instanceof makeVehicle)) {
            return "Only things on wheels are allowed in here!";
        }
        if(this.vehicles.length > this.capacity){
            return "Turn around the garage is full!";
        }else{
         this.vehicles.push(newToy);
            return "New toy added to the collection!";
        }
    }
}
```