**Assignment**

Race Cars

Construct a calling class and a Car class as follows:

**Car Class:**

Properties: Make (String), Year(int), Color(String), Speed (int)

Methods:

* All getter, setter methods
* Accelerate ( increase speed : 15MPH if year < 2010, 30 MPH >= 2010)
* Brake ( lower speed : 5MPH if year < 2010, 10 MPH >= 2010, speed always >=0)
* Stop (speed = 0)

**Calling Class**

Create an array of 10 cars. Give them random colors and makes of your choice. Select a random year for a car, but when done, half the cars should have a year >=2010. Initial Speed is zero.

Do the following 100 times

* Pick a random car
* Randomly select Brake, Accelerate or Stop method (equal probabilities)
* Invoke the selected method chosen for the car chosen

After the loop, print out the car number, year, make, color and final speed.

***Extra Credit (2 points)***

Simulate a race. Each car starts at zero. Make a loop where the body of the loop does the three bullet points above. However, in this part, each iteration of the loop represents one minute of time. After each iteration of the loop , calculate the distance travelled by the car. Keep track of each car’s total distance. When a car reaches 100 miles, it is the winner. Print out the winning car, the second place car (based on distance) and distance,….. till the last place car.