**Assignment Chapter 10 Randall Fishwick**

**CO SCI 124**

**Python Programming**

# Car class  
# The Car class provide access to a car's data,  
# and provides acceleration and deceleration methods  
  
class Car:  
 def \_\_init\_\_(self, year\_model, make):  
 self.\_\_year\_model = year\_model  
 self.\_\_make = make  
 self.\_\_speed = 0  
  
 # Define set / mutator methods  
 def set\_year\_model(self, year\_model):  
 self.\_\_year\_model = year\_model  
  
 def set\_make(self, make):  
 self.\_\_make = make  
  
 def set\_speed(self, speed):  
 self.\_\_speed = speed  
  
 # Define get / accessor methods  
 def get\_year\_model(self):  
 return self.\_\_year\_model  
  
 def get\_make(self):  
 return self.\_\_make  
  
 def get\_speed(self):  
 return self.\_\_speed  
  
 # Define acceleration and deceleration methods  
 def accelerate(self):  
 self.\_\_speed += 5  
  
 def brake(self):  
 self.\_\_speed -= 5  
  
  
# The main function.  
def main():  
 print("\nA Program to define a car and manipulate it's velocity\n")  
 year\_model = input("Input Year and Model: ")  
 make = input("Input Make: ")  
  
 # Create an object from the Car class.  
 my\_car = Car(year\_model, make)  
  
 # Set initial car speed to 0  
 my\_car.set\_speed(0)  
  
 # Print car attributes  
 print("\nCar attributes and initial speed:")  
 print("Year and Model: ", my\_car.get\_year\_model())  
 print("Make: ", my\_car.get\_make())  
 print\_speed(my\_car.get\_speed())  
  
 # Accelerate 5 times  
 print("\nAccelerate")  
 for i in range(5):  
 my\_car.accelerate()  
 print\_speed(my\_car.get\_speed())  
  
 # Decelerate 5 times  
 print("\nBrake")  
 for i in range(5):  
 my\_car.brake()  
 print(my\_car.get\_speed())  
  
  
# Function to print formatted speed  
def print\_speed(speed):  
 print("Speed: ", speed)  
  
  
# Call the main function.  
main()

**Results:**

/Users/randallfishwick/Documents/Python/CO\_SCI\_124\_Python/AsnCh10/car.py

A Program to define a car and manipulate it's velocity

Input Year and Model: 2008 Camry

Input Make: Toyota

Car attributes and initial speed:

Year and Model: 2008 Camry

Make: Toyota

Speed: 0

Accelerate

Speed: 5

Speed: 10

Speed: 15

Speed: 20

Speed: 25

Brake

20

15

10

5

0

Process finished with exit code 0