CSC 2111 Lab 11

Objectives:

1) Learn how to work with pointers in class
2) Learn how to allocate and deallocate dynamic memory
3) Learn how to write copy constructor function

Question:

Download lab11.cpp. Construct a class named *Car* containing these four data members: a double variable named *engineSize*, a character variable named *bodyStyle*, an integer variable named *colorCode*, and a character pointer named *vinPtr* to a vehicle ID.

Your class should include four member functions as follows:

1) *Car(double eng, char style, int cd, char *pt) // The constructor function*

   A constructor function must initialize all the private variables according to the given data. In order to store the vehicle ID, you **must** dynamically allocate memory. Hint: Use strlen() to get the length of the vehicle ID code.
2) *Car(const Car&) // The copy constructor*

   A copy constructor that performs a **memberwise** assignment between two Car objects and handles the pointer member correctly.
3) A display function named *showData ()* that prints the engine size, body style, color code, and vehicle ID code
4) A destructor that delete the pointer member correctly

Please don't modify the given driver program. Submit just one cpp file. Your program should provide the following output:

```
The values for this object are:
     Engine size: 250
     Body style: S
     Color code: 52
     VIN: ABC567YYY

The values for this object are:
     Engine size: 250
     Body style: S
     Color code: 52
     VIN: ABC567YYY
Press any key to continue . . .
```