

Answer on Question #50399 - Programming, C++

Create a class named Car. The Car class contains a static integer field named count. Create a constructor that adds 1 to the count and displays the count each time a Car is created. Create a destructor that subtracts 1 from the count and displays the count each time a Car goes out of scope. Write a main() function that declares an array of five Car objects. Output consists of five constructor messages and five destructor messages, each displaying the current count

Solution.

```
//Connecting libraries
#include <iostream>
using namespace std;

//The class named Car
class Car
{
    //The class contains a static integer field named count
    static int count;

public:

    //The constructor
    Car()
    {
        //that adds 1 to the count
        count++;

        //displays the count each time a Car is created
        cout<<"The "<<count<<" car was created"<<endl;
    }

    //The destructor
    ~Car()
    {
        //displays the count each time a Car is created
        cout<<"The "<<count<<" car was deleted"<<endl;

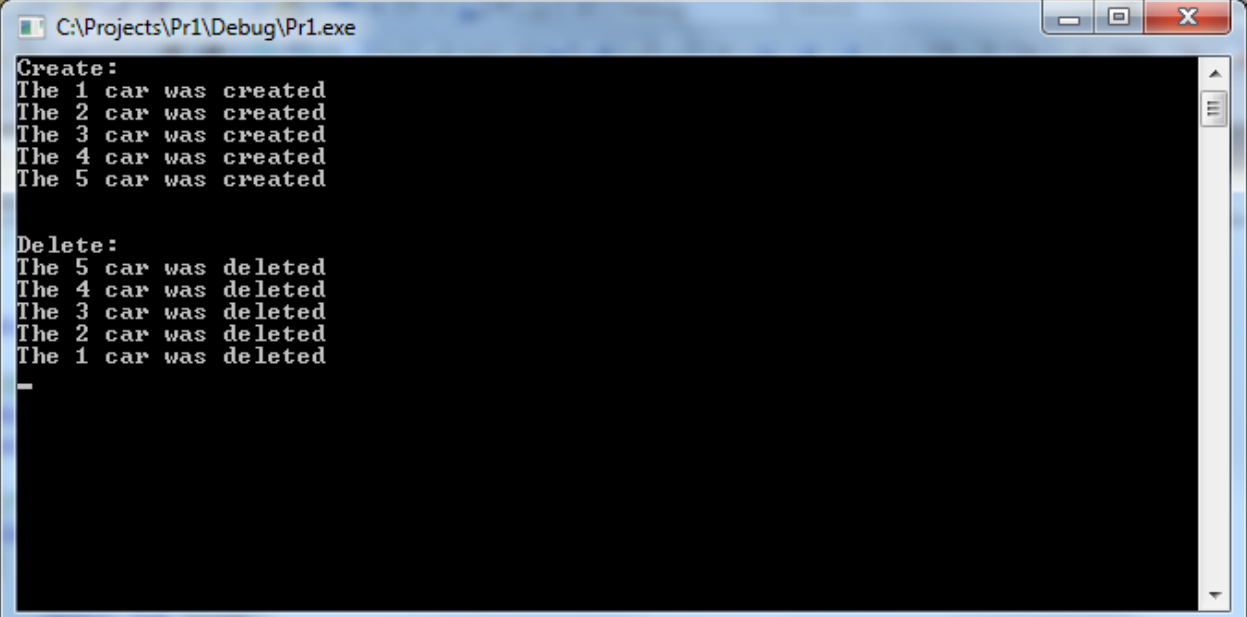
        //that subtracts 1 to the count
        count--;
    }
};

int Car::count = 0;//for accessing static members

//The main function that declares an array of five Car.
int main()
{
    cout<<"Create:"<<endl;
    Car* car =new Car[5];

    cout<<endl<<endl<<"Delete:"<<endl;
    delete [] car;
```

```
//Stop console  
cin.get();  
cin.get();  
return 0;  
}
```



The screenshot shows a Windows command prompt window titled "C:\Projects\Pr1\Debug\Pr1.exe". The output of the program is displayed in white text on a black background. The output is divided into two sections: "Create:" and "Delete:". The "Create:" section lists five lines: "The 1 car was created", "The 2 car was created", "The 3 car was created", "The 4 car was created", and "The 5 car was created". The "Delete:" section lists five lines: "The 5 car was deleted", "The 4 car was deleted", "The 3 car was deleted", "The 2 car was deleted", and "The 1 car was deleted". A single hyphen "-" is printed on the line following the last delete message. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

```
C:\Projects\Pr1\Debug\Pr1.exe  
Create:  
The 1 car was created  
The 2 car was created  
The 3 car was created  
The 4 car was created  
The 5 car was created  
  
Delete:  
The 5 car was deleted  
The 4 car was deleted  
The 3 car was deleted  
The 2 car was deleted  
The 1 car was deleted  
-
```