

Philip Pesic

Week 10

October 23 2022

Week 10 Midterm

DocViewer

Pages

Midterm exam

Write the following two classes: Whole and Part.

What is the sequence in which constructors and destructors are executed?

Step1 - Define two classes, Whole and part. Use a strong "has a" relationship with the two classes.

Constructor Functions

Define a default constructor for the Part class.

Default just prints out "In default part constructor"

Define a default and a parm constructor for the Whole class.

In Whole Default constructor assigns wholeName = "None"; and prints out "In whole default

Constructor"

In Whole Parm constructor - Passes in name to WholeName and

Then It prints out value of wholeName variable and "In Whole parm constructor"

Destructor Functions

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Define a destructor function for the part class.

Define a string variable called wholeName in the whole class.

Define a getName function for whole class.

Two test.

Step 2 - Declare a Whole W1, with default constructor

Have the Whole constructor print "called default constructor", and contents of wholeName variable

Have the Whole Destructor print "called destructor", and contents of wholeName variable

Declare a Whole W2, with a parm constructor - Have it pass in "w2"

Have the Whole constructor print "called parm constructor", and contents of wholeName variable.

Have the Whole Destructor print "called destructor", and the contents of wholeName variable.

Step 3 - use the dot

Use the dot notation to print out the contents of W1 wholeName variable

Use the dot notation to print the contents of W2 wholeName variable

//

// main.cpp

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//

// Created by Pippo Pesic on 10/20/22.

//

#include <iostream>

#include <string>

using namespace std;

class Part {

public:

Part() {

cout << "Part Default Constructor" << endl;

}

~Part() {

cout << "Part Destructor" << endl;

cout << "Philip Pesic 10/23/22" << endl;

}

};

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```
class Whole {  
  
    Part part1;  
  
    string wholeName;  
  
public:  
  
    Whole() {  
  
        wholeName = "NONE";  
  
        cout << "Whole Default Constructor" << endl;  
  
    }  
  
    Whole(string name) {  
  
        name = wholeName;  
  
        cout << wholeName << endl;  
  
        cout << "Whole Parametized Constructor" << endl;  
  
    }  
  
    ~Whole() {  
  
        cout << "Whole Destructor" << endl;  
  
        cout << "wholeName: " << wholeName << endl;  
  
    }  
}
```

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```
        string getName() {  
            return wholeName;  
        }  
};
```

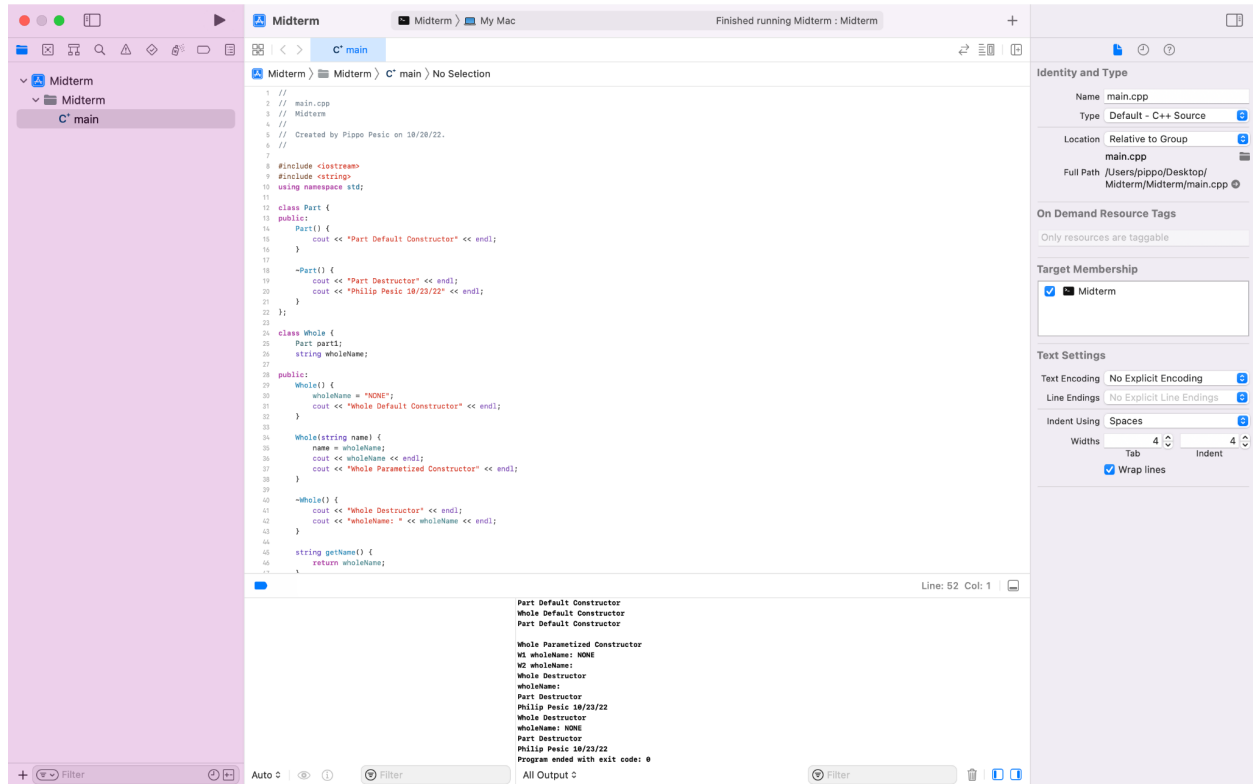
```
int main() {  
    Whole W1;  
    Whole W2("w2");  
    cout << "W1 wholeName: " << W1.getName() << endl;  
    cout << "W2 wholeName: " << W2.getName() << endl;  
    return 0;  
}
```

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I learned: how constructors and destructors of composed classes are ordered