Debugging

Episode I
Let the Hunt Begin

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Debugging Compilation Errors in C/C++ Programs

- Thumb Rules
  - Always concentrate on the first error
    - The next errors are many times not accurate. They are based on assumptions, made by the compiler, on what the first error was and how to fix it!
  - Remember, when it comes to debugging, "Google is your friend"

Debugging Example

```cpp
#include <iostream>


int main()
{
  cout << "!!!Hello World!!!" << endl;
  return 0
}
```

* File name is: helloWorldDbg.cpp

Compile Program

- Running: g++ helloWorldDbg.cpp
- Produces the following output:

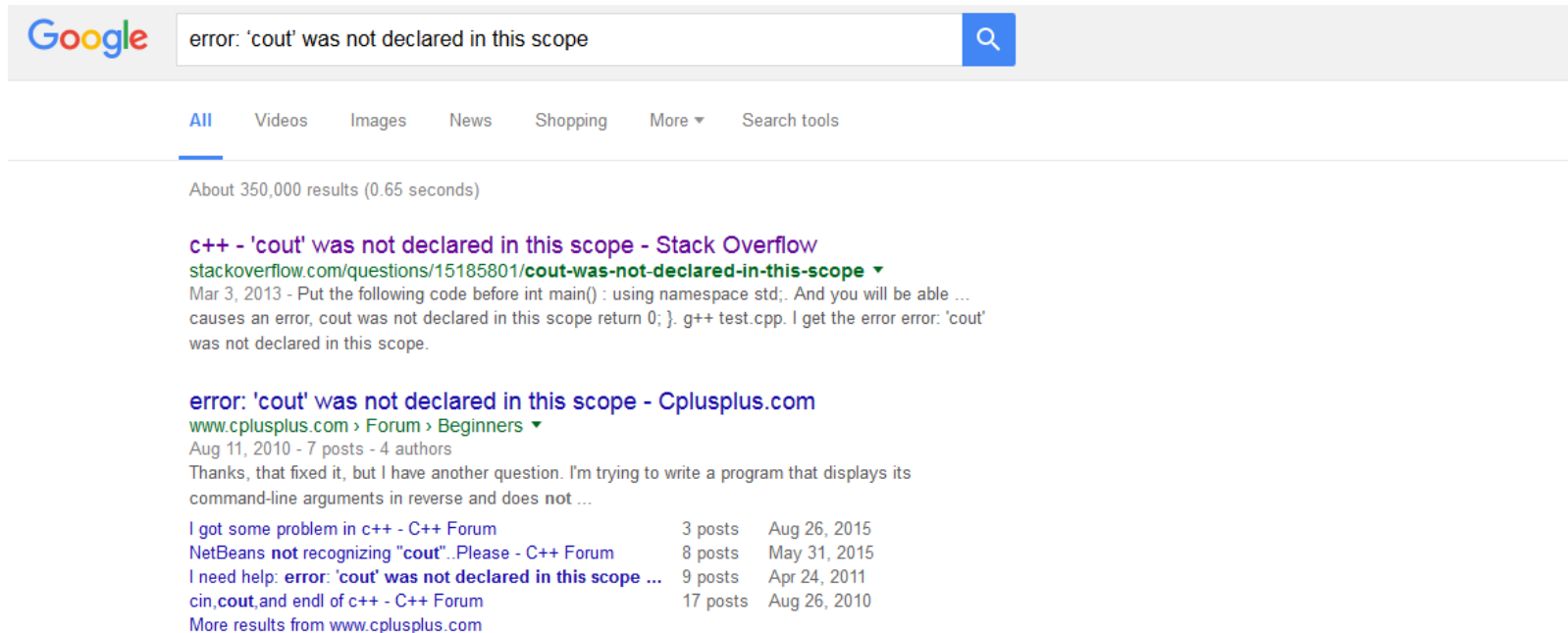helloWorldDbg.cpp: In function 'int main()':

helloWorldDbg.cpp:6: error: 'cout' was not declared in this scope

helloWorldDbg.cpp:6: error: 'endl' was not declared in this scope

helloWorldDbg.cpp:8: error: expected ';' before '}' token

Analyze and Fix First Error

- error: 'cout' was not declared in this scope

Read the Questions and Answers Carefully

2 Answers

active   oldest   **votes**

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Put the following code before `int main()` :

```
using namespace std;
```

And you will be able to use `cout` .

For example:

```
#include<iostream>
using namespace std;
int main(){
    char t = 'f';
    char *t1;
    char **t2;
    cout<<t;
    return 0;
}
```

Now take a moment and read up on what cout is and what is going on here: http://www.cplusplus.com/reference/iostream/cout/

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edited Jul 1 '13 at 14:29
Eric Leschinski
45.3k ● 23 ● 217 ● 184

answered Mar 3 '13 at 14:08
rafalon
677 ● 5 ● 8

Compilation Debugging Loop

While your code has errors, **Try to fix the first error and recompile the code.** Repeat until your program compiles successfully!

Alternatively in C/C++ while loop style ->

While(errors exist in your code)
{
  try to fix first error
  recompile code
}

Class Assignment I

- Fix the code that will be given to you

- Compile the program

- Hand in the corrected program and program output

Code

```cpp
#include <iostream>
const float MyConstantValue = 9.9
int testFunc1()
{
  return MyConstantValue * 2;
}
int testFunc2(int val)
{
  return vall*testFunc1();
}
int testFunc3(int y)
{
  int x = 4;
  return testFunc2(x)*testFunc2(y);
}
int main()
{
  cout << !!!Hello Errors!!!" << endl;
  int result = testFunc3(10);
  cout << "Result="<<result<endl;
 return 0;
}
```