**Lab Sections**

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Scope of Variable Names

**Scope of Variable Names**

1. **Objectives**

**After you complete this experiment you will be able to determine the scope of a variable name.**

1. **Introduction**

The scope is the region in a program where a name (identifier) has meaning. As you already know, all identifiers must be declared before they can be used.

More information on scope can be found in your course textbook and on the web.

1. **Experiments**

**Step 1: In this experiment you will investigate the operation of scope rules in a program.**

**Enter, save, compile and execute the following program in MSVS. Call the new project “VariableScopeExp1” and the program “VariableNameScope1.cpp”. Answer the questions below:**

#include <iostream>

using namespace std;

void Function\_One();

void Function\_Two();

void Function\_Three(int);

int i=100;

void Function\_One()

{

cout<<"i in Function\_One = "<<i<<endl;

}

void Function\_Two()

{

int i = 555;

cout<<"i in Function\_Two = "<<i<<endl;

}

void Function\_Three(int i)

{

cout<<"i in Function\_Three = "<<i<<endl;

}

int main()

{

int i = 777;

Function\_Three(666);

Function\_Two();

Function\_One();

cout<<"i in main = "<<i<<endl;

return 0;

}

1. What are the scope rules you observed in the program in Step 1?

**Step 2: In this experiment you will investigate the operation of scope rules in a program.**

**Enter, save, compile and execute the following program in MSVS. Call the new project “VariableScopeExp2” and the program “VariableNameScope2.cpp”. Answer the questions below:**

#include <iostream>

using namespace std;

int i = 111;

int main()

{

{

int i = 222;

{

int i = 333;

cout<<"i = "<<i<<endl;

{

int i = 444;

cout<<"i = "<<i<<endl;

{

cout<<"i = "<<i<<endl;

}

}

}

cout<<"i = "<<i<<endl;

}

cout<<"i = "<<i<<endl;

return 0;

}

1. What are the scope rules you observed in the program in Step 2?