**\_\_\_\_\_**

**Variable Scope:**

A scope is a region of the program and broadly speaking there are three places where variables can be declared:

1. Inside a function or a block which is called **local variables**,

They can be used only by statements that are inside that function or block of code. Local variables are not known to functions outside their own.

1. In the definition of function parameters which is called **formal parameters**.
2. Outside of all functions which is called **global variables**.

Global variables are defined outside of all the functions, usually on top of the program. The global variables will hold their value throughout the lifetime of your program. A global variable can be accessed by any function. That is, a global variable is available for use throughout your entire program after its declaration.

#include <iostream>

using namespace System;

void main()

{

 int PropertyType;

 cout<<"What Type of House Would you Like to Purchase?");

 Cout<<"0 - Any";

 Cout<<"1 - Single Family";

 Cout<<"2 - Townhouse";

 Cout<<"3 - Condominium";

 Cout<<"Your Choice? ";

 Cin>>PropertyType;

 if( (PropertyType >= 0) && (PropertyType <= 3) )

 **{**

 **String Type;** //declared inside if statement block

 switch(PropertyType)

 {

 case 1:

 Type = "Single Family";

 break;

 case 2:

 Type = "Townhouse";

 break;

 case 3:

 Type = "Condominium";

 break;

 default:

 Type = "Type Unspecified";

 }

 Cout<<"\nDesired Property Type: "<< Type; //using **type** inside the block

 **}** // end if

}

Here is an example of running the program:

What Type of House Would you Like to Purchase?

0 - Any

1 - Single Family

2 - Townhouse

3 - Condominium

your Choice? 1

Desired Property Type: Single Family

Press any key to continue . . .

If you try to use the same variable outside of the conditional statement, you would receive an error because its "visibility" doesn't extend beyond the conditional statement. Consider this:

#include <iostream>

using namespace System;

void main()

{ int PropertyType;

 cout<<"What Type of House Would you Like to Purchase?");

 Cout<<"0 - Any";

 Cout<<"1 - Single Family";

 Cout<<"2 - Townhouse";

 Cout<<"3 - Condominium";

 Cout<<"Your Choice? ";

 Cin>>PropertyType;

 if( (PropertyType >= 0) && (PropertyType <= 3) )

 **{** **String Type;** //declared inside if statement block

 switch(PropertyType)

 {

 case 1: Type = "Single Family";

 break;

 case 2: Type = "Townhouse";

 break;

 case 3: Type = "Condominium";

 break;

 default: Type = "Type Unspecified";

 };

 **} //end if**

 Cout<<"\nDesired Property Type: "<< Type; //using **type** outside the block

 }

When compiled, this program would produce the following error:

Error C2275: 'System::Type' : illegal use of this type as an expression

EX:

#include <iostream>

using namespace std;

// Global variable declaration:

30

int g;

int main ()

{

 // Local variable declaration:

 int a, b;

 // actual initialization

 a = 10;

 b = 20;

 g = a + b;

 cout << g;

 return 0;

}

EX:

#include <iostream>

using namespace std;

10

// Global variable declaration:

int g = 20;

int main ()

{

 // Local variable declaration:

 int g = 10;

 cout << g;

 return 0;

}

For more understanding please visit this website: <http://www.functionx.com/cppcli/variables/Lesson22.htm>