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Exercise 10: Programming Project 11.1

To create a namespace, you place your code under a namespace heading with this format:

```
Namespace Your_Name_Of_Choice
{
    Your_Code
}
```

Any name definitions (class definitions, variable declarations, function declarations, etc) you place in the code block of the namespace can then be accessed when you are using this specific namespace. If you want to use the names defined in this namespace you must state so at the beginning of your program code with the *using* directive. You can use either *using namespace Your_Name_Of_Choice* to access all of the names in the namespace or *using Your_Name_Of_Choice::variableName* if there is a specific name definition you would like to access. In the program for project 11.1, for example, I could use either *using namespace A*, *using A::f* (to access function *f*), or *using A::g* (to access function 'g').

The namespace is included in an interface file that is saved as a header file (.h or .hpp). In the project our interface files for *namespace A* are *f.h* and *g.h* and hold our function declarations, but not our function definitions. The implementation file contains any function definitions or overloaded operator definitions we need for names held in our namespace interface file. The implementation file is a .cpp and in the project are saved as *f.cpp* and *g.cpp*. The project implementation files hold the definitions of functions *f* and *g*.

When writing the implementation code you need to include the header file by using *#include "header.h"* (for example, *#include "g.h"*). Then the code for your definition is placed in your namespace the same as earlier.

```
Namespace Your_Name_Of_Choice
{
    Your_function( )
    {
        Function_definition
    }
}
```

Then, when writing a program, if you would like to include names from your newly created namespace you need to include your header file(s) (ex. *#include "f.h"*) and a using statement for your namespace (*using namespace Your_Name_Of_Choice*). If you have done all of that correctly you should be able to use all of the namespace variables as you would anything declared in the same program.

To run the program you need to include the .cpp file for your main program as well as the .cpp implementation files. You can compile them as a group or create a makefile.