

Chapter 8 – Void Functions

1. Void Free Functions

Functions that do not return a value do not have a *return* statement and are declared as type *void*. These *void functions* are called in standalone statements and are not used in expressions. In the following example, the *void* function *StopAndGo()* provides an easy pause.

```
#include <iostream>
#include <conio.h>
using namespace std;

void StopAndGo( );

void main( ) {
    cout << "Deedle, deedle, dumpling," << endl;
    StopAndGo( );
    cout << "my son John" << endl;
    StopAndGo( );
    cout << "went to bed with his britches on." << endl;
    StopAndGo( );
    cout << "One shoe off," << endl;
    StopAndGo( );
    cout << "One shoe on." << endl;
    StopAndGo( );
    cout << "Deedle, deedle,dumpling," << endl;
    StopAndGo( );
    cout << "my son John." << endl;
    StopAndGo( );
}

void StopAndGo( ) {
    cout << "... press any key to continue ...";

    cout.flush( );      // flush may not be needed in
                        // your C++ environment

    getch( );
    cout << endl;
}
```

When run, this program produces the following output.

```
Deedle, deedle, dumpling,  
... press any key to continue ...  
my son John  
... press any key to continue ...  
went to bed with his britches on.  
... press any key to continue ...  
One shoe off,  
... press any key to continue ...  
One shoe on.  
... press any key to continue ...  
Deedle, deedle,dumpling,  
... press any key to continue ...  
my son John.  
... press any key to continue ...
```

Exercises

1. What is a void function?
2. Find the errors in the following program.

```
#include <iostream>  
using namespace std;  
  
void Daze(int years);  
  
void main {  
    cout << "Enter your age: ";  
    long age;  
    cin >> age;  
    cout << Daze(age) << endl;  
}  
  
void Daze(int years) {  
    return << "You are (approximately) " << years * 365  
        << " old." << endl;  
}
```

Programming Exercise 8.1

Variables of type *char* are actually a special form of integer. All *chars* are available by assigning the ASCII value of the character to a *char* variable. For example, the two assignment statement examples in the following code are identical.

```
char c;           char c;  
c = 'A';         c = 65;
```

In both cases, an upper case A is assigned as the value to the *char* variable *c*. By using *cout* to output a character variable that has been assigned the value of 7, the system bell (beep) will sound. (Whether or not you here the system bell on the internal speaker of your PC or via the sound card / integrated sound is up to your operating system.) Various text graphics characters are available in this way. Acceptable values range from 0 to 255.

Write a program with a *void* function named *Ring* that will sound the system bell three times each time it is called.

Programming Exercise 8.2

Write a program with a *void* function named *CharOut* that will receive an *int* value from 0 to 255, then outputs the *char* value that the number represents.