Listing 5.12 puts the while loop to work. The loop cycles through each character in a string and displays the character and its ASCII code. The loop quits when it reaches the null character. This technique of stepping through a string character-by-character until reaching the null character is a standard C++ method for processing strings. Because a string contains its own termination marker, programs often don't need explicit information about how long a string is.

Listing 5.12 while.cpp

// while.cpp -- introducing the while loop
#include <iostream>
using namespace std;
const int ArSize = 20;
int main()
{
    char name[ArSize];

    cout << "Your first name, please: ";
    cin >> name;
    cout << "Here is your name, verticalized and ASCIIized: \n";
    int i = 0; // start at beginning of string
    while (name[i] != '\0') // process to end of string
    {
        cout << name[i] << ": " << int(name[i]) << \n';
        i++; // don't forget this step
    }
    return 0;
}

Here is a sample run:

Your first name, please: Muffy
Here is your name, verticalized and ASCIIized:
M: 77
u: 117
f: 102