

There are two basic parts to a C++ program: (1) instructions to the C++ preprocessor and compiler and (2) instructions that describe the processing to be done. Let's examine the following C++ program. The source code is numbered so that we can discuss the program structure, C++ syntax/semantics, data types, words and symbols with special meaning.

```
1.  // Program Rhyme prints out a nursery rhyme.

2.  #include <iostream>
3.  #include <string>
4.  using namespace std;

5.  const char SEMI_COLON = ':';
6.  const string VERB1 = "went up ";
7.  const string VERB2 = "down came ";
8.  const string VERB3 = "washed ";
9.  const string VERB4 = "out came ";
10. const string VERB5 = "dried up ";

11. int main()
12. {
13.     string firstLine;
14.     string secondLine;
15.     string thirdLine;
16.     string fourthLine;

17.     firstLine = "The itsy bitsy spider " + VERB1 +
18.     "the water spout";
19.     secondLine = VERB2 + "the rain and " + VERB3 +
20.     "the spider out";
21.     thirdLine = VERB4 + "the sun and " + VERB5 +
22.     "all the rain";
23.     fourthLine = "and the itsy bitsy spider " + VERB1 +
24.     "the spout again";

25.     cout << firstLine << SEMI_COLON << endl;
26.     cout << secondLine << SEMI_COLON << endl;
27.     cout << thirdLine << SEMI_COLON;
28.     cout << endl;
29.     cout << fourthLine << '.' << endl;
30.     return 0;
31. }
```

C++ Programming Language Related Terminology: C++ preprocessor, C++ compiler, C++ syntax and semantics, C++ reserved words, the process of naming things (data types, data object, and actions) by giving them an identifier, C++ case sensitive syntax, program structure, program comments, program statements, program block of statements -executable part, hash mark(#), include directive - standard include directory, constant, variable and function declarations, using directive (see Ch 8), data type and/or data type identifier, int, char, string, value assigned to variable or constant, a single alphanumeric character as opposed to a string of characters, constant identifier, constant declaration, named constant, naming convention, assignment, arithmetic, insertion, extraction operators, operands, concatenation, assignment-input-output statements, and much more to learn along the way.....

In-class activity:

- (a) Write a program to print out the following lines from Dr. Seuss's *Horton Hatches the Egg*.¹

```
I meant what I said
And I said what I meant
An elephant's faithful
One hundred percent
```

- (b) Put a border of asterisks around the entire quotation (all four sides). Each line of the quotation should be sent to the output stream in the same statement.

```
// Program seuss prints out quotations from Dr. Seuss's Horton Hatches the Egg.
```

```
#include <iostream>
#include <string>
using namespace std;
```

```
int main()
{
```

```
    return 0;
}
```

¹ Dr. Seuss, *Horton Hatches the Egg* (New York: Random House, 1940).