Your First C++ Programs

Few Examples

Every program must have a function named “main”
main is a function that returns an integer
the empty () tell that main has no arguments
int main( ) {
the body of the function is between {}
// put here your C++ code
return 0 ;
}
return an integer, 0 = success

#include <iostream>

stdart output (terminal)
redirect to standard output
text printed
cout << “ welcome to the world of C++ ”
<< \n;
end of line
return 0;
c++ is free format, statements end with ;
c++ is case sensitive

The complete program:

a comment
// program to print a greeting
#include <iostream>
to use the standard namespace
using namespace std;
int main ( ) {
cout << “ welcome to the world of C++ ”
<< \n ;
return 0 ;
}

/* a program that enquire your name
and print a greeting */
#include <iostream>
#include <string>
using namespace std;
int main ( ) {
cout << “ Please, enter your first name ”
<< \n;
string firstName; all variables must be declared
standard input (keyboard)
cin >> firstName;
cout << “ welcome to the world of C++, ”
<< firstName << \n ;
return 0 ;
print the value of variable firstName
}

// takes two float and makes some algebra
#include <iostream>
using namespace std;
int main ( ) {
float a, b; a and b are variables of type float
cin >> a >> b;
float sum, diff;
sum = a + b;
diff = a – b;
cout << “ the sum of ” << a << “ and ”
<< b << “ is ” << sum << \n ;
cout << “ the difference of ” << a
<< “ and ” << b << “ is ”
<< diff << \n ;
return 0;
}
/* sphere.cpp computes the mass of a sphere. 
 * Input:  The radius (m) and the density 
 *         (Kg/cubic meters) of a sphere 
 * Output: The mass of the sphere (Kg) 
 *****************************************/
#include <iostream>
#include <math>
using namespace std;

int main() {
    const double PI = 3.14159;
    cout << "Enter the radius of the sphere (meters): ";
    double radius;
    cin >> radius;
    cout << "Enter the density of the sphere (Kg/cubic meters): ";
    double density;
    cin >> density;
    double mass = density * 4.0 * PI * pow(radius, 3) / 3.0;
    cout << "The mass of the sphere is " << mass << " Kg.\n";
    return 0;
}