

```

/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference, 2nd Edition"
 * by Nicolai M. Josuttis, Addison-Wesley, 2012
 *
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 */
#include "alghostuff.hpp"
using namespace std;

int main()
{
    list<int> coll;

    INSERT_ELEMENTS(coll, 1, 6);
    PRINT_ELEMENTS(coll);

    // process sum of all products
    // (0 + 1*1 + 2*2 + 3*3 + 4*4 + 5*5 + 6*6)
    cout << "inner product: "
         << inner_product (coll.cbegin(), coll.cend(), // first range
                           coll.cbegin(),              // second range
                           0,                           // initial value

                           << endl;

    // process sum of 1*6 ... 6*1
    // (0 + 1*6 + 2*5 + 3*4 + 4*3 + 5*2 + 6*1)
    cout << "inner reverse product: "
         << inner_product (coll.cbegin(), coll.cend(), // first range
                           coll.crbegin(),             // second range
                           0,                           // initial value

                           << endl;

    // process product of all sums
    // (1 * 1+1 * 2+2 * 3+3 * 4+4 * 5+5 * 6+6)
    cout << "product of sums: "
         << inner_product (coll.cbegin(), coll.cend(), // first range
                           coll.cbegin(),              // second range
                           1,                           // initial value
                           multiplies<int>(),           // outer operation
                           plus<int>(),                 // inner operation

                           << endl;
}

```