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/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference"
 * by Nicolai M. Josuttis, Addison-Wesley, 1999
 *
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 */
#include "alghostuff.hpp"
using namespace std;

// return whether the second object has double the value of the first
bool doubled (int elem1, int elem2)
{
    return elem1 * 2 == elem2;
}

int main()
{
    vector<int> coll;

    coll.push_back(1);
    coll.push_back(3);
    coll.push_back(2);
    coll.push_back(4);
    coll.push_back(5);
    coll.push_back(5);
    coll.push_back(0);

    PRINT_ELEMENTS(coll, "coll: ");

    // search first two elements with equal value
    vector<int>::iterator pos;
    pos = adjacent_find (coll.begin(), coll.end());

    if (pos != coll.end()) {
        cout << "first two elements with equal value have position "
              << distance(coll.begin(), pos) + 1
              << endl;
    }

    // search first two elements for which the second has double the value of the
    first
    pos = adjacent_find (coll.begin(), coll.end(), // range
                        doubled);                  // criterion

    if (pos != coll.end()) {
        cout << "first two elements with second value twice the "
              << "first have pos. "
              << distance(coll.begin(), pos) + 1
              << endl;
    }
}

```