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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;

bool bothEvenOrOdd (int elem1, int elem2)
{
    return elem1 % 2 == elem2 % 2;
}

int main()
{
    vector<int> coll1;
    list<int> coll2;

    INSERT_ELEMENTS(coll1, 1, 7);
    INSERT_ELEMENTS(coll2, 3, 9);

    PRINT_ELEMENTS(coll1, "coll1: ");
    PRINT_ELEMENTS(coll2, "coll2: ");

    // check whether both collections are equal
    if (equal (coll1.begin(), coll1.end(), // first range
              coll2.begin())) {           // second range
        cout << "coll1 == coll2" << endl;
    }
    else {
        cout << "coll1 != coll2" << endl;
    }

    // check for corresponding even and odd elements
    if (equal (coll1.begin(), coll1.end(), // first range
              coll2.begin(),               // second range
              bothEvenOrOdd)) {             // comparison criterion
        cout << "even and odd elements correspond" << endl;
    }
    else {
        cout << "even and odd elements do not correspond" << endl;
    }
}

```