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/* 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 <algorithm>
#include <iterator>
#include <list>
#include <iostream>
using namespace std;

int main()
{
    list<int> coll;

    // insert elements from 6 to 1 and 1 to 6
    for (int i=1; i<=6; ++i) {
        coll.push_front(i);
        coll.push_back(i);
    }

    // print all elements of the collection
    copy (coll.cbegin(), coll.cend(),
          ostream_iterator<int>(cout, " "));
    cout << endl;

    // remove all elements with value 3
    // - retain new end
    list<int>::iterator end = remove (coll.begin(), coll.end(),
                                     3);

    // print resulting elements of the collection
    copy (coll.begin(), end,
          ostream_iterator<int>(cout, " "));
    cout << endl;

    // print number of removed elements
    cout << "number of removed elements: "
         << distance(end, coll.end()) << endl;

    // remove "removed" elements
    coll.erase (end, coll.end());

    // print all elements of the modified collection
    copy (coll.cbegin(), coll.cend(),
          ostream_iterator<int>(cout, " "));
    cout << endl;
}

```