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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 "alghostuff.hpp"
using namespace std;

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

    INSERT_ELEMENTS(coll1, 1, 9);
    INSERT_ELEMENTS(coll2, 1, 9);
    PRINT_ELEMENTS(coll1, "coll1: ");
    PRINT_ELEMENTS(coll2, "coll2: ");
    cout << endl;

    // move all even elements to the front
    vector<int>::iterator pos1, pos2;
    pos1 = partition(coll1.begin(), coll1.end(),           // range
                    [](int elem) {                         // criterion
                        return elem%2==0;
                    });
    pos2 = stable_partition(coll2.begin(), coll2.end(),   // range
                           [](int elem) {               // criterion
                               return elem%2==0;
                           });

    // print collections and first odd element
    PRINT_ELEMENTS(coll1, "coll1: ");
    cout << "first odd element: " << *pos1 << endl;
    PRINT_ELEMENTS(coll2, "coll2: ");
    cout << "first odd element: " << *pos2 << endl;
}

```