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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> coll = { 1, 6, 33, 7, 22, 4, 11, 33, 2, 7, 0, 42, 5 };
    PRINT_ELEMENTS(coll, "coll: ");

    // destination collections:
    vector<int> evenColl;
    vector<int> oddColl;

    // copy all elements partitioned accordingly into even and odd elements
    partition_copy (coll.cbegin(), coll.cend(), // source range
                   back_inserter(evenColl),    // destination for even elements
                   back_inserter(oddColl),      // destination for odd elements
                   [](int elem) {               // predicate: check for even
elements                                     return elem%2==0;
                                           });

    PRINT_ELEMENTS(evenColl, "evenColl: ");
    PRINT_ELEMENTS(oddColl, "oddColl: ");
}

```