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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;

// checks whether an element is even or odd
bool checkEven (int elem, bool even)
{
    if (even) {
        return elem % 2 == 0;
    }
    else {
        return elem % 2 == 1;
    }
}

int main()
{
    vector<int> coll;

    INSERT_ELEMENTS(coll,1,9);
    PRINT_ELEMENTS(coll,"coll: ");

    /* arguments for checkEven()
     * - check for: ``even odd even''
     */
    bool checkEvenArgs[3] = { true, false, true };

    // search first subrange in coll
    vector<int>::iterator pos;
    pos = search (coll.begin(), coll.end(),           // range
                  checkEvenArgs, checkEvenArgs+3,    // subrange values
                  checkEven);                          // subrange criterion

    // loop while subrange found
    while (pos != coll.end()) {
        // print position of first element
        cout << "subrange found starting with element "
              << distance(coll.begin(),pos) + 1
              << endl;

        // search next subrange in coll
        pos = search (++pos, coll.end(),              // range
                      checkEvenArgs, checkEvenArgs+3, // subr. values
                      checkEven);                     // subr. criterion
    }
}

```