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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;
using namespace std::placeholders;

int main()
{
    vector<int> coll;
    vector<int>::iterator pos;

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

    // find first element greater than 3
    pos = find_if (coll.begin(), coll.end(),    // range
                  bind(greater<int>(),_1,3));   // criterion

    // print its position
    cout << "the "
         << distance(coll.begin(),pos) + 1
         << ". element is the first greater than 3" << endl;

    // find first element divisible by 3
    pos = find_if (coll.begin(), coll.end(),
                  [](int elem){
                      return elem%3==0;
                  });

    // print its position
    cout << "the "
         << distance(coll.begin(),pos) + 1
         << ". element is the first divisible by 3" << endl;

    // find first element not <5
    pos = find_if_not (coll.begin(), coll.end(),
                      bind(less<int>(),_1,5));
    cout << "first value >=5: " << *pos << endl;
}

```