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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 <unordered_set>
#include <numeric>
#include "print.hpp"
using namespace std;

int main()
{
    // create and initialize unordered set
    unordered_set<int> coll = { 1, 2, 3, 5, 7, 11, 13, 17, 19, 77 };

    // print elements
    // - elements are in arbitrary order
    PRINT_ELEMENTS(coll);

    // insert some additional elements
    // - might cause rehashing and create different order
    coll.insert({-7, 17, 33, -11, 17, 19, 1, 13});
    PRINT_ELEMENTS(coll);

    // remove element with specific value
    coll.erase(33);

    // insert sum of all existing values
    coll.insert(accumulate(coll.begin(), coll.end(), 0));
    PRINT_ELEMENTS(coll);

    // check if value 19 is in the set
    if (coll.find(19) != coll.end()) {
        cout << "19 is available" << endl;
    }

    // remove all negative values
    unordered_set<int>::iterator pos;
    for (pos=coll.begin(); pos!= coll.end(); ) {
        if (*pos < 0) {
            pos = coll.erase(pos);
        }
        else {
            ++pos;
        }
    }
    PRINT_ELEMENTS(coll);
}

```