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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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 * warranty, and with no claim as to its suitability for any purpose.
 */
#include "alghostuff.hpp"
using namespace std;

int main()
{
    int c1[] = { 1, 2, 2, 4, 6, 7, 7, 9 };
    int num1 = sizeof(c1) / sizeof(int);

    int c2[] = { 2, 2, 2, 3, 6, 6, 8, 9 };
    int num2 = sizeof(c2) / sizeof(int);

    // print source ranges
    cout << "c1: " ;
    copy (c1, c1+num1,
          ostream_iterator<int>(cout, " "));
    cout << endl;
    cout << "c2: " ;
    copy (c2, c2+num2,
          ostream_iterator<int>(cout, " "));
    cout << '\n' << endl;

    // sum the ranges by using merge()
    cout << "merge(): ";
    merge (c1, c1+num1,
           c2, c2+num2,
           ostream_iterator<int>(cout, " "));
    cout << endl;

    // unite the ranges by using set_union()
    cout << "set_union(): ";
    set_union (c1, c1+num1,
               c2, c2+num2,
               ostream_iterator<int>(cout, " "));
    cout << endl;

    // intersect the ranges by using set_intersection()
    cout << "set_intersection(): ";
    set_intersection (c1, c1+num1,
                       c2, c2+num2,
                       ostream_iterator<int>(cout, " "));
    cout << endl;

    // determine elements of first range without elements of second range
    // by using set_difference()
    cout << "set_difference(): ";
    set_difference (c1, c1+num1,

```

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                c2, c2+num2,
                ostream_iterator<int>(cout, " ");
cout << endl;

// determine difference the ranges with set_symmetric_difference()
cout << "set_symmetric_difference(): ";
set_symmetric_difference (c1, c1+num1,
                          c2, c2+num2,
                          ostream_iterator<int>(cout, " "));
cout << endl;
}
```