```cpp
/* 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 "algostuff.hpp"
using namespace std;

int main()
{
    vector<int> coll;
    INSERT_ELEMENTS(coll,1,3);
    PRINT_ELEMENTS(coll,"on entry:  ");

    // permute elements until they are sorted
    // - runs through all permutations because the elements are sorted now
    while (next_permutation(coll.begin(),coll.end())) {
        PRINT_ELEMENTS(coll," ");
    }
    PRINT_ELEMENTS(coll,"afterward: ");

    // permute until descending sorted
    // - this is the next permutation after ascending sorting
    // - so the loop ends immediately
    while (prev_permutation(coll.begin(),coll.end())) {
        PRINT_ELEMENTS(coll," ");
    }
    PRINT_ELEMENTS(coll,"now:       ");

    // permute elements until they are sorted in descending order
    // - runs through all permutations because the elements are sorted in
descending order now
    while (prev_permutation(coll.begin(),coll.end())) {
        PRINT_ELEMENTS(coll," ");
    }
    PRINT_ELEMENTS(coll,"afterward: ");
}
```