//Zhihao Jin Program 3

#include <iostream>

#include <vector>

#include <deque>

#include <array>

#include <algorithm>

using namespace std;

void square\_function( int &n );

int main()

{

deque<int> numbers\_1 = {2, 6, 3, 9, 1, 8, -2};

cout << "The numbers that deque contains are ";

for( auto i : numbers\_1 )

{

cout << i << " ";

}

cout << ".";

sort( numbers\_1.begin(), numbers\_1.end() );

cout << endl;

cout << "The numbers after sorting are in deque: ";

for( auto i : numbers\_1 )

{

cout << i << " ";

}

cout << "." << endl << endl;

vector<int> numbers\_2 = { -2, 1, 2, 3, 6, 8, 9};

cout << "The numbers contained in vector are: ";

for( auto i : numbers\_2 )

{

cout << i << " ";

}

cout << "." << endl;

sort( numbers\_2.begin(), numbers\_2.end() );

cout << "The numbers after sorting in vector are : ";

for( auto i : numbers\_2 )

{

cout << i << " ";

}

cout << "." << endl << endl;

const unsigned size\_of\_array = 14;

array<int, size\_of\_array> arr;

cout << "The numbers in array are: ";

merge( numbers\_1.begin(), numbers\_1.end(), numbers\_2.begin(),

numbers\_2.end(), arr.begin() );

for( auto i : arr )

{

cout << i << " ";

}

cout << "." << endl;

for\_each( arr.begin(), arr.end(), square\_function );

cout << "The numbers after square are: ";

for( auto i : arr )

{

cout << i << " ";

}

cout << "." << endl;

}

void square\_function( int &n )

{

n = n \* n;

}