/// \*\*\* --- ||| In the name of ALLAH ||| --- \*\*\* ///

#include<bits/stdc++.h>

using namespace std;

bool cmp ( const pair<int,int> &p1, const pair<int, int> &p2 )

{

if ( p1.first > p2.first ) return 1;

if ( p1.first == p2.first ) return ( p1.second < p2.second );

return 0;

}

int main()

{

/// Declear a pair o integers

pair<int,int> p;

p = make\_pair ( 2, 3 );

cout << p.first << " " << p.second << endl; /// 2 3

p.first++;

cout << p.first << " " << p.second << endl; /// 3 3

pair<int, int> p1 = { 2, 3 };

pair<int, int> p2 = { 1, 6 };

/// Getting minimum of 2 pairs

p = min ( p1, p2 );

cout << p.first << " " << p.second << endl; /// 1 6

/// Getting maximum of 2 pairs

p = max ( p1, p2 );

cout << p.first << " " << p.second << endl; /// 2 3

/// Sorting pair of integers

vector<pair<int,int>> v;

v.push\_back ( { 1, 5 } );

v.push\_back ( { 2, 5 } );

v.push\_back ( { 7, 1 } );

v.push\_back ( { 3, 6 } );

v.push\_back ( { 3, 6 } );

v.push\_back ( { 7, 1 } );

sort ( v.begin(), v.end() );

for ( auto u : v ) cout << u.first << " " << u.second << endl;

cout << endl;

/\*\*

1 5

2 5

3 6

3 6

7 1

7 1

\*/

/// Making unique pair of integers

int Sz = unique ( v.begin(), v.end() ) - v.begin();

cout << Sz << endl;

for ( int i = 0; i < Sz; i++ ) cout << v[i].first << " " << v[i].second << endl;

cout << endl;

/\*\*

4

1 5

2 5

3 6

7 1

\*/

/// sorting using comparator

v = { {2, 3}, {4, 5}, {1, 5}, {1, 6}, {6, 7}, {6, 8} };

sort ( v.begin(), v.end(), cmp );

for ( auto u : v ) cout << u.first << " " << u.second << endl;

cout << endl;

/\*\*

6 7

6 8

4 5

2 3

1 5

1 6

\*/

v = { {2, 3}, {4, 5}, {1, 5}, {1, 6}, {6, 7}, {6, 8} };

for ( int i = 0; i < v.size(); i++ ) v[i].first \*= -1;

sort ( v.begin(), v.end() );

for ( auto u : v ) cout << (u.first\*-1) << " " << u.second << endl;

cout << endl;

/\*\*

6 7

6 8

4 5

2 3

1 5

1 6

\*/

return 0;

}