#include <bits/stdc++.h>

using namespace std;

//first part

vector<vector<int>> func1(vector<vector<int>> arr,int rows, int cols)

{

srand(time(0));

for (int i=0; i<rows; i++)

for (int j=0; j<cols; j++)

arr[i][j] = 0 + (rand() % 100);

return arr;

}

int i;

bool sortcol(const vector<int>& v1, const vector<int>& v2)

{

return v1[i] < v2[i];

}

int main(){

srand(time(0));

int rows = 1 + (rand() % 10);

int cols = 1 + (rand() % 10);

vector<vector<int>> arr(rows,vector<int> (cols));

arr=func1(arr,rows,cols);

cout << "The rows of random 2d array are: " << rows << " and columns are: " << cols << endl;

cout << "Random 2d array generated is:" << endl;

for (int i=0; i<rows; i++){

for (int j=0; j<cols; j++)

cout << arr[i][j] << " ";

cout << endl;

}

i=1 + (rand() % rows);

cout<<i;

sort(arr.begin(), arr.end(), sortcol);

cout<<endl<<endl<<"After sorting the matrix"<<endl<<endl;

for (int i=0; i<rows; i++){

for (int j=0; j<cols; j++)

cout << arr[i][j] << " ";

cout << endl;

}

return 0;

}