#include <iostream>

using namespace std;

const int INPUT\_SIZE = 10;

// A simple print function

void print(int \*input)

{

for ( int i = 0; i < INPUT\_SIZE; i++ )

cout << input[i] << " ";

cout << endl;

}

// The partition function

int partition(int\* input, int p, int r)

{

int pivot = input[r];

while ( p < r )

{

while ( input[p] < pivot )

p++;

while ( input[r] > pivot )

r--;

if ( input[p] == input[r] )

p++;

else if ( p < r )

{

int tmp = input[p];

input[p] = input[r];

input[r] = tmp;

}

}

return r;

}

// The quicksort recursive function

void quicksort(int\* input, int p, int r)

{

if ( p < r )

{

int j = partition(input, p, r);

quicksort(input, p, j-1);

quicksort(input, j+1, r);

}

}

int main(){

int input[INPUT\_SIZE] = {500, 700, 800, 100, 300, 200, 900, 400, 1000, 600};

cout << "Input: ";

print(input);

quicksort(input, 0, 9); cout << "Output: "; print(input); return 0;

}