**Lab Description:**

\*\*Lab description in README

\*\*Not on lab write up

**Graph:**

**Main.cpp:**

#include <iostream> // cout, endl

#include <stdio.h> // printf

#include <chrono> // chrono

#include <time.h> // time functions

namespace CostCount {

int c = 0;

}

namespace CostSwap {

int s = 0;

}

int\* makeArray(int); // Creates a dynamic array based off a given length

int\* makeArray2(int); // Creates a dynamic array based off a given length.. values random

void shuffle(int\*, int); // Shuffles the array randomly

void swap(int&, int&); // Swaps two int elements in the array

void HireAssistant(int\*, int); // Simulates the hire assistent algorithm

void interview(int); // Acts as a dumby interview function

void hire(int); // Acts as a dumby hire function

void printArray(int\*, int); // prints the array

void randomizedQuickSort(int\*, int, int); // Implements randomized quick sort

int partition(int\*, int, int); // partition functions for the randomized quick sort

bool isSorted(int\*, int); // checks to see if the array is sorted correctly

int main() {

srand(time(NULL));

int\* test = makeArray(10);

printArray(test, 10);

shuffle(test, 10);

printArray(test, 10);

delete [] test;

int testCases[] = {10000, 60000, 110000, 160000, 210000, 260000, 310000, 360000, 410000, 460000, 510000, 560000,

610000, 660000, 710000, 760000, 810000, 860000, 910000};

int testLen = 19;

std::cout << "Tests for the Hiring Problem: " << std::endl;

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

int avgWork = 0;

for (int j = 0; j < 20; j++) {

int \*arr = makeArray(testCases[i]);

int len = testCases[i];

shuffle(arr, len);

std::cout << "Working on a pool of " << testCases[i] << " applicants." << std::endl;

auto start = std::chrono::system\_clock::now();

HireAssistant(arr, len);

auto end = std::chrono::system\_clock::now();

std::chrono::duration<double> elapsed\_seconds = end - start;

std::time\_t end\_time = std::chrono::system\_clock::to\_time\_t(end);

std::cout << "Finished at " << std::ctime(&end\_time) << "Elapsed time: " << elapsed\_seconds.count() << "s\n";

std::cout << "Amount of work: " << CostCount::c << std::endl;

avgWork += CostCount::c;

CostCount::c = 0;

delete [] arr;

}

avgWork /= 20;

std::cout << "Average Work of test case: " << testCases[i] << std::endl;

std::cout << "= " << avgWork << std::endl;

}

CostSwap::s = 0;

std::cout << "Tests for Randomized Quick Sort: " << std::endl;

for (int i = 0; i < testLen / 2; i++) {

int avgWork = 0;

for (int j = 0; j < 20; j++) {

int \*arr = makeArray2(testCases[i]);

int len = testCases[i];

std::cout << "Working on an array of size " << testCases[i] << std::endl;

auto start = std::chrono::system\_clock::now();

randomizedQuickSort(arr, 0, testCases[i]);

auto end = std::chrono::system\_clock::now();

std::chrono::duration<double> elapsed\_seconds = end - start;

std::time\_t end\_time = std::chrono::system\_clock::to\_time\_t(end);

std::cout << "Finished at " << std::ctime(&end\_time) << "Elapsed time: " << elapsed\_seconds.count() << "s\n";

std::cout << "Amount of swaps: " << CostSwap::s << std::endl;

if (isSorted(arr, testCases[i])) {

std::cout << "Sorted Correctly!" << std::endl;

} else {

std::cout << "Not sorted correctly sadly :(" << std::endl;

}

avgWork += CostSwap::s;

CostSwap::s = 0;

delete [] arr;

}

avgWork /= 20;

std::cout << "Average Work of test case: " << testCases[i] << std::endl;

std::cout << "= " << avgWork << std::endl;

}

return 0;

}

/\*

\* Randomized QuickSort:

\* Implements the randomized QuickSort algorithm

\*/

void randomizedQuickSort(int\* arr, int l, int r) {

if (l < r) {

int random = 1 + rand() % (r - l) + l;

swap(arr[random - 1], arr[r - 1]);

int p = partition(arr, l, r);

randomizedQuickSort(arr, l, p);

randomizedQuickSort(arr, p + 1, r);

}

}

/\*

\* partition Function:

\* Finds a partition and returns that to the quicksort function

\*/

int partition(int\* arr, int l, int r) {

int p = arr[r - 1];

int i = l - 1;

for (int j = l; j <= r - 2; j++) {

if (arr[j] < p) {

i++;

swap(arr[j], arr[i]);

}

}

swap(arr[r - 1], arr[i + 1]);

return i + 1;

}

/\*

\* isSorted Function:

\* Checks to see if the array is sorted correctly

\*/

bool isSorted(int\* arr, int len) {

for (int i = 0; i < len - 1; i++) {

if (arr[i] > arr[i + 1]) {

return false;

}

}

return true;

}

/\*

\* HireAssistant Function:

\* Simulates the hire assistant algorithm

\*/

void HireAssistant(int\* arr, int len) {

int best = 0;

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

interview(arr[i]);

if (arr[i] > best) {

best = arr[i];

hire(arr[i]);

}

}

}

/\*

\* interview Function:

\* Acts as a dumby interview function

\*/

void interview(int element) {

CostCount::c++;

}

/\*

\* hire Function:

\* Acts as a dumby hire function

\*/

void hire(int element) {

CostCount::c += 2;

}

/\*

\* makeArray Function:

\* Takes a length input by the user and then creates a dynamic array of that length

\*/

int\* makeArray(int len) {

int\* rtnMe = new int[len];

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

rtnMe[i] = i + 1;

}

return rtnMe;

}

/\*

\* makeArray2 Function:

\* Takes a length input by the user and then creates a dynamic array of that length

\* but the array is completely random numbers

\*/

int\* makeArray2(int len) {

int\* rtnMe = new int[len];

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

rtnMe[i] = 1 + rand() % 50;

}

return rtnMe;

}

/\*

\* shuffle Function:

\* Shuffles a given array randomly

\*/

void shuffle(int\* arr, int len) {

int rand1 = 0;

int rand2 = 0;

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

rand1 = rand() % len;

rand2 = rand() % len;

swap(arr[rand1], arr[rand2]);

}

}

/\*

\* swap Function:

\* Swaps two given values in an array

\*/

void swap(int& first, int& second) {

int temp = first;

first = second;

second = temp;

CostSwap::s++;

}

/\*

\* printArray Function:

\* Prints the array for testing purposes

\*/

void printArray(int\* arr, int len) {

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

std::cout << arr[i] << " ";

}

std::cout << std::endl;

}

**Sample Output:**

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0461e-05s

Amount of work: 10030

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0412e-05s

Amount of work: 10028

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0408e-05s

Amount of work: 10026

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 8.3049e-05s

Amount of work: 10026

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.5836e-05s

Amount of work: 10012

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0382e-05s

Amount of work: 10014

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.051e-05s

Amount of work: 10024

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0405e-05s

Amount of work: 10028

Working on a pool of 10000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 5.0438e-05s

Amount of work: 10024

Average Work of test case: 10000

= 10024

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000575494s

Amount of work: 60018

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000302813s

Amount of work: 60022

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301283s

Amount of work: 60020

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000314306s

Amount of work: 60024

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000347728s

Amount of work: 60034

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301339s

Amount of work: 60026

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301388s

Amount of work: 60022

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301075s

Amount of work: 60014

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000359934s

Amount of work: 60020

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000351483s

Amount of work: 60020

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301755s

Amount of work: 60022

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000316825s

Amount of work: 60018

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000285166s

Amount of work: 60022

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301284s

Amount of work: 60016

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000301074s

Amount of work: 60030

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000630111s

Amount of work: 60018

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000318703s

Amount of work: 60028

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000374594s

Amount of work: 60012

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.00030351s

Amount of work: 60022

Working on a pool of 60000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000587002s

Amount of work: 60028

Average Work of test case: 60000

= 60021

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.00078293s

Amount of work: 110024

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000886894s

Amount of work: 110022

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000685714s

Amount of work: 110030

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000690389s

Amount of work: 110030

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000568172s

Amount of work: 110012

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000551821s

Amount of work: 110026

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000551695s

Amount of work: 110012

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000611796s

Amount of work: 110024

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.00063909s

Amount of work: 110020

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000554409s

Amount of work: 110016

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.00063365s

Amount of work: 110018

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000656717s

Amount of work: 110026

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000664227s

Amount of work: 110028

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000662435s

Amount of work: 110030

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000551726s

Amount of work: 110016

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000631047s

Amount of work: 110022

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000916934s

Amount of work: 110020

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000551829s

Amount of work: 110020

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000569046s

Amount of work: 110022

Working on a pool of 110000 applicants.

Finished at Fri Mar 6 17:48:51 2020

Elapsed time: 0.000606254s

Amount of work: 110030

Average Work of test case: 110000

= 110022

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00108021s

Amount of work: 160018

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00104507s

Amount of work: 160038

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000917331s

Amount of work: 160036

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000958858s

Amount of work: 160032

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000867524s

Amount of work: 160028

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000857452s

Amount of work: 160026

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00105391s

Amount of work: 160024

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000802236s

Amount of work: 160014

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.0010464s

Amount of work: 160018

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000814576s

Amount of work: 160034

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000992818s

Amount of work: 160022

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00488873s

Amount of work: 160020

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000875172s

Amount of work: 160028

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00101703s

Amount of work: 160022

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000964876s

Amount of work: 160032

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00117503s

Amount of work: 160026

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000935801s

Amount of work: 160022

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000832236s

Amount of work: 160030

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000903065s

Amount of work: 160026

Working on a pool of 160000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.000938916s

Amount of work: 160026

Average Work of test case: 160000

= 160026

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00808264s

Amount of work: 210036

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00109881s

Amount of work: 210032

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00126518s

Amount of work: 210018

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00125438s

Amount of work: 210026

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00118029s

Amount of work: 210020

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00113152s

Amount of work: 210024

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00127252s

Amount of work: 210016

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00158344s

Amount of work: 210022

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00127253s

Amount of work: 210020

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00119867s

Amount of work: 210024

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00107573s

Amount of work: 210040

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00108224s

Amount of work: 210024

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00118375s

Amount of work: 210040

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00121368s

Amount of work: 210032

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00115135s

Amount of work: 210022

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00113571s

Amount of work: 210024

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00125417s

Amount of work: 210030

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:52 2020

Elapsed time: 0.00120868s

Amount of work: 210038

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00125432s

Amount of work: 210018

Working on a pool of 210000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00127276s

Amount of work: 210038

Average Work of test case: 210000

= 210027

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00145393s

Amount of work: 260030

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00154229s

Amount of work: 260010

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00143701s

Amount of work: 260040

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00145761s

Amount of work: 260018

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00132162s

Amount of work: 260020

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00144777s

Amount of work: 260026

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00170285s

Amount of work: 260022

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00149137s

Amount of work: 260022

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00168075s

Amount of work: 260024

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00146192s

Amount of work: 260036

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00197836s

Amount of work: 260020

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00129095s

Amount of work: 260036

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00148498s

Amount of work: 260018

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00186176s

Amount of work: 260016

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00153753s

Amount of work: 260036

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00157008s

Amount of work: 260014

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00148785s

Amount of work: 260024

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00136571s

Amount of work: 260034

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00204452s

Amount of work: 260028

Working on a pool of 260000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00160453s

Amount of work: 260036

Average Work of test case: 260000

= 260025

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00200971s

Amount of work: 310034

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00190033s

Amount of work: 310030

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00193572s

Amount of work: 310030

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:53 2020

Elapsed time: 0.00196184s

Amount of work: 310038

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00203833s

Amount of work: 310024

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00224389s

Amount of work: 310024

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00167147s

Amount of work: 310028

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00181363s

Amount of work: 310022

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00207135s

Amount of work: 310026

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00174259s

Amount of work: 310024

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00183344s

Amount of work: 310028

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00180076s

Amount of work: 310016

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.0020616s

Amount of work: 310030

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00192627s

Amount of work: 310024

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00171618s

Amount of work: 310024

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00184335s

Amount of work: 310034

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00179742s

Amount of work: 310040

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00175102s

Amount of work: 310022

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00179954s

Amount of work: 310026

Working on a pool of 310000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00186173s

Amount of work: 310038

Average Work of test case: 310000

= 310028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00215458s

Amount of work: 360020

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00207208s

Amount of work: 360028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00216452s

Amount of work: 360034

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.00229477s

Amount of work: 360028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:54 2020

Elapsed time: 0.0021615s

Amount of work: 360030

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.0020897s

Amount of work: 360026

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00194871s

Amount of work: 360024

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.0020613s

Amount of work: 360038

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00210626s

Amount of work: 360026

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00212255s

Amount of work: 360032

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00204214s

Amount of work: 360028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00263303s

Amount of work: 360032

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00197479s

Amount of work: 360022

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00208635s

Amount of work: 360046

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00204743s

Amount of work: 360022

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00198329s

Amount of work: 360028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00202857s

Amount of work: 360028

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.0020331s

Amount of work: 360036

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.0022034s

Amount of work: 360022

Working on a pool of 360000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00209129s

Amount of work: 360026

Average Work of test case: 360000

= 360028

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00239726s

Amount of work: 410024

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00231138s

Amount of work: 410034

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00252476s

Amount of work: 410028

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:55 2020

Elapsed time: 0.00230009s

Amount of work: 410034

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00780267s

Amount of work: 410022

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.0023173s

Amount of work: 410024

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00275916s

Amount of work: 410016

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.0024346s

Amount of work: 410024

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.0025936s

Amount of work: 410024

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00263269s

Amount of work: 410044

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.0024461s

Amount of work: 410022

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00224961s

Amount of work: 410040

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00237383s

Amount of work: 410022

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00262194s

Amount of work: 410026

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.0223671s

Amount of work: 410034

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00225897s

Amount of work: 410028

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00232093s

Amount of work: 410034

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00256625s

Amount of work: 410030

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.002619s

Amount of work: 410020

Working on a pool of 410000 applicants.

Finished at Fri Mar 6 17:48:56 2020

Elapsed time: 0.00227186s

Amount of work: 410032

Average Work of test case: 410000

= 410028

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.0067343s

Amount of work: 460014

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00272004s

Amount of work: 460016

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.0027475s

Amount of work: 460020

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.0028274s

Amount of work: 460030

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00297902s

Amount of work: 460028

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00295912s

Amount of work: 460032

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.0025657s

Amount of work: 460030

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00287159s

Amount of work: 460020

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00288724s

Amount of work: 460034

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00314691s

Amount of work: 460020

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00243448s

Amount of work: 460026

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00251435s

Amount of work: 460028

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00306269s

Amount of work: 460024

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:57 2020

Elapsed time: 0.00257742s

Amount of work: 460030

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00257583s

Amount of work: 460036

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00264006s

Amount of work: 460026

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00260503s

Amount of work: 460024

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00266106s

Amount of work: 460030

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00245536s

Amount of work: 460030

Working on a pool of 460000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00269886s

Amount of work: 460024

Average Work of test case: 460000

= 460026

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00687446s

Amount of work: 510022

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.0037187s

Amount of work: 510020

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00327073s

Amount of work: 510040

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00320273s

Amount of work: 510018

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00416596s

Amount of work: 510026

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00289796s

Amount of work: 510032

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00303799s

Amount of work: 510018

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:58 2020

Elapsed time: 0.00293172s

Amount of work: 510030

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00336837s

Amount of work: 510024

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00287502s

Amount of work: 510022

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00289422s

Amount of work: 510024

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00286852s

Amount of work: 510022

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00286416s

Amount of work: 510020

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00300486s

Amount of work: 510026

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00340293s

Amount of work: 510030

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00320431s

Amount of work: 510032

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00307046s

Amount of work: 510026

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00660096s

Amount of work: 510024

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.0030456s

Amount of work: 510038

Working on a pool of 510000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.00972522s

Amount of work: 510036

Average Work of test case: 510000

= 510026

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:48:59 2020

Elapsed time: 0.0032627s

Amount of work: 560028

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00328938s

Amount of work: 560028

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00779498s

Amount of work: 560030

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00719651s

Amount of work: 560024

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00711362s

Amount of work: 560022

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00373717s

Amount of work: 560032

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00406745s

Amount of work: 560040

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00362557s

Amount of work: 560022

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00335006s

Amount of work: 560022

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.0032907s

Amount of work: 560026

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00316626s

Amount of work: 560034

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:00 2020

Elapsed time: 0.00327416s

Amount of work: 560038

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00380185s

Amount of work: 560034

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00357291s

Amount of work: 560024

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.0126936s

Amount of work: 560024

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00384255s

Amount of work: 560018

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00949944s

Amount of work: 560026

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00311099s

Amount of work: 560044

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00349201s

Amount of work: 560038

Working on a pool of 560000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00337424s

Amount of work: 560020

Average Work of test case: 560000

= 560028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00438274s

Amount of work: 610044

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00376475s

Amount of work: 610030

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:01 2020

Elapsed time: 0.00385532s

Amount of work: 610022

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.0083277s

Amount of work: 610028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00716798s

Amount of work: 610030

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00376085s

Amount of work: 610032

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00348707s

Amount of work: 610022

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00847658s

Amount of work: 610028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00370761s

Amount of work: 610020

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00357235s

Amount of work: 610030

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00846604s

Amount of work: 610024

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.0161165s

Amount of work: 610028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:02 2020

Elapsed time: 0.00378289s

Amount of work: 610036

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00978647s

Amount of work: 610044

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00355507s

Amount of work: 610034

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00353542s

Amount of work: 610020

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00372355s

Amount of work: 610028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00375453s

Amount of work: 610034

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00454011s

Amount of work: 610028

Working on a pool of 610000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.0036996s

Amount of work: 610026

Average Work of test case: 610000

= 610029

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00402813s

Amount of work: 660028

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00442468s

Amount of work: 660032

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:03 2020

Elapsed time: 0.00379277s

Amount of work: 660038

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.0108287s

Amount of work: 660034

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00548098s

Amount of work: 660026

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00786045s

Amount of work: 660030

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00395949s

Amount of work: 660028

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00495138s

Amount of work: 660032

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00632757s

Amount of work: 660032

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00407926s

Amount of work: 660026

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00429059s

Amount of work: 660024

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:04 2020

Elapsed time: 0.00394855s

Amount of work: 660020

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.0049947s

Amount of work: 660040

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.014642s

Amount of work: 660034

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.00871161s

Amount of work: 660036

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.00398512s

Amount of work: 660024

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.0129556s

Amount of work: 660026

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.00388229s

Amount of work: 660026

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.00430517s

Amount of work: 660034

Working on a pool of 660000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.00417325s

Amount of work: 660026

Average Work of test case: 660000

= 660029

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:05 2020

Elapsed time: 0.0041861s

Amount of work: 710026

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00812913s

Amount of work: 710030

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00919227s

Amount of work: 710028

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00854421s

Amount of work: 710036

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00433356s

Amount of work: 710018

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.0052562s

Amount of work: 710034

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00428717s

Amount of work: 710034

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00435572s

Amount of work: 710040

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.00845105s

Amount of work: 710032

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:06 2020

Elapsed time: 0.0162058s

Amount of work: 710034

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00394114s

Amount of work: 710034

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00414531s

Amount of work: 710044

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00826653s

Amount of work: 710034

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00816083s

Amount of work: 710014

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00429175s

Amount of work: 710032

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00852324s

Amount of work: 710024

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.00426332s

Amount of work: 710030

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:07 2020

Elapsed time: 0.0112988s

Amount of work: 710024

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00811907s

Amount of work: 710024

Working on a pool of 710000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00448666s

Amount of work: 710018

Average Work of test case: 710000

= 710029

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.0042507s

Amount of work: 760030

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.0167424s

Amount of work: 760040

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00465303s

Amount of work: 760020

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00508406s

Amount of work: 760022

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00852812s

Amount of work: 760046

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:08 2020

Elapsed time: 0.00489737s

Amount of work: 760018

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.0177336s

Amount of work: 760036

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.00865183s

Amount of work: 760020

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.00442517s

Amount of work: 760030

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.004465s

Amount of work: 760034

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.00426815s

Amount of work: 760022

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.0133283s

Amount of work: 760030

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.00839512s

Amount of work: 760030

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:09 2020

Elapsed time: 0.00462619s

Amount of work: 760020

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00817298s

Amount of work: 760020

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00444989s

Amount of work: 760016

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00474846s

Amount of work: 760036

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00689498s

Amount of work: 760026

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00442656s

Amount of work: 760030

Working on a pool of 760000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00697311s

Amount of work: 760014

Average Work of test case: 760000

= 760027

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:10 2020

Elapsed time: 0.00536934s

Amount of work: 810026

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.00544612s

Amount of work: 810022

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.00492791s

Amount of work: 810024

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.0120232s

Amount of work: 810028

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.00491091s

Amount of work: 810030

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.008509s

Amount of work: 810014

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.0261184s

Amount of work: 810024

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.0120968s

Amount of work: 810028

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:11 2020

Elapsed time: 0.00932108s

Amount of work: 810038

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.00480376s

Amount of work: 810036

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.00914738s

Amount of work: 810024

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.0048571s

Amount of work: 810034

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.0145867s

Amount of work: 810036

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.0135174s

Amount of work: 810018

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.00707654s

Amount of work: 810028

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:12 2020

Elapsed time: 0.00905189s

Amount of work: 810034

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00934303s

Amount of work: 810028

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00467476s

Amount of work: 810046

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.0156448s

Amount of work: 810032

Working on a pool of 810000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00931432s

Amount of work: 810032

Average Work of test case: 810000

= 810029

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00950566s

Amount of work: 860032

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00532413s

Amount of work: 860032

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:13 2020

Elapsed time: 0.00971809s

Amount of work: 860018

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.00545991s

Amount of work: 860030

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.0050165s

Amount of work: 860018

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.0055313s

Amount of work: 860032

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.00904694s

Amount of work: 860036

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.0130962s

Amount of work: 860040

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.00518934s

Amount of work: 860032

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:14 2020

Elapsed time: 0.00908481s

Amount of work: 860024

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00913736s

Amount of work: 860024

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00829322s

Amount of work: 860028

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00862119s

Amount of work: 860046

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00545055s

Amount of work: 860026

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00540166s

Amount of work: 860018

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.0134085s

Amount of work: 860038

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:15 2020

Elapsed time: 0.00532361s

Amount of work: 860026

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.00995199s

Amount of work: 860030

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.00490814s

Amount of work: 860030

Working on a pool of 860000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.00879286s

Amount of work: 860018

Average Work of test case: 860000

= 860028

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.0052288s

Amount of work: 910032

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.00556788s

Amount of work: 910012

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:16 2020

Elapsed time: 0.00982315s

Amount of work: 910020

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.00930192s

Amount of work: 910022

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.00554134s

Amount of work: 910024

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.00909393s

Amount of work: 910036

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.0054035s

Amount of work: 910022

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.0160534s

Amount of work: 910022

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.00772929s

Amount of work: 910032

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:17 2020

Elapsed time: 0.00604692s

Amount of work: 910034

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.0142213s

Amount of work: 910022

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.00541024s

Amount of work: 910030

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.0126958s

Amount of work: 910034

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.00552692s

Amount of work: 910026

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.00546149s

Amount of work: 910028

Working on a pool of 910000 applicants.

Finished at Fri Mar 6 17:49:18 2020

Elapsed time: 0.00875726s

Amount of work: 910018

Tests for Randomized Quick Sort:

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00333859s

Amount of swaps: 60163

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00330175s

Amount of swaps: 70422

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00689346s

Amount of swaps: 51580

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00878374s

Amount of swaps: 59781

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00345687s

Amount of swaps: 50055

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00340526s

Amount of swaps: 49376

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00849453s

Amount of swaps: 54544

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00338456s

Amount of swaps: 51121

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00758732s

Amount of swaps: 49505

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00551034s

Amount of swaps: 66196

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00335039s

Amount of swaps: 45934

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00330942s

Amount of swaps: 60737

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00399072s

Amount of swaps: 52600

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.0121173s

Amount of swaps: 53678

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.0035878s

Amount of swaps: 59358

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00393019s

Amount of swaps: 53537

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00334695s

Amount of swaps: 55276

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00763288s

Amount of swaps: 54290

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00538997s

Amount of swaps: 50770

Sorted Correctly!

Working on an array of size 10000

Finished at Fri Mar 6 17:50:41 2020

Elapsed time: 0.00372566s

Amount of swaps: 51571

Sorted Correctly!

Average Work of test case: 10000

= 55024

Working on an array of size 60000

Finished at Fri Mar 6 17:50:42 2020

Elapsed time: 0.20912s

Amount of swaps: 341994

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:42 2020

Elapsed time: 0.214552s

Amount of swaps: 309487

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:42 2020

Elapsed time: 0.202177s

Amount of swaps: 360452

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:42 2020

Elapsed time: 0.214083s

Amount of swaps: 296092

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:43 2020

Elapsed time: 0.210869s

Amount of swaps: 281908

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:43 2020

Elapsed time: 0.206731s

Amount of swaps: 332425

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:43 2020

Elapsed time: 0.208091s

Amount of swaps: 315131

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:43 2020

Elapsed time: 0.199236s

Amount of swaps: 314708

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:43 2020

Elapsed time: 0.204049s

Amount of swaps: 302604

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:44 2020

Elapsed time: 0.208231s

Amount of swaps: 349484

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:44 2020

Elapsed time: 0.204737s

Amount of swaps: 309564

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:44 2020

Elapsed time: 0.208179s

Amount of swaps: 364340

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:44 2020

Elapsed time: 0.221024s

Amount of swaps: 324523

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:44 2020

Elapsed time: 0.205674s

Amount of swaps: 310241

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:45 2020

Elapsed time: 0.213216s

Amount of swaps: 406426

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:45 2020

Elapsed time: 0.198012s

Amount of swaps: 384715

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:45 2020

Elapsed time: 0.211692s

Amount of swaps: 316676

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:45 2020

Elapsed time: 0.210151s

Amount of swaps: 316988

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:46 2020

Elapsed time: 0.202995s

Amount of swaps: 344520

Sorted Correctly!

Working on an array of size 60000

Finished at Fri Mar 6 17:50:46 2020

Elapsed time: 0.215228s

Amount of swaps: 382289

Sorted Correctly!

Average Work of test case: 60000

= 333228

Working on an array of size 110000

Finished at Fri Mar 6 17:50:46 2020

Elapsed time: 0.621033s

Amount of swaps: 576674

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:47 2020

Elapsed time: 0.543221s

Amount of swaps: 616027

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:47 2020

Elapsed time: 0.513511s

Amount of swaps: 505515

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:48 2020

Elapsed time: 0.557348s

Amount of swaps: 640495

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:49 2020

Elapsed time: 0.561763s

Amount of swaps: 541440

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:49 2020

Elapsed time: 0.564076s

Amount of swaps: 578379

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:50 2020

Elapsed time: 0.561174s

Amount of swaps: 583007

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:50 2020

Elapsed time: 0.561553s

Amount of swaps: 548296

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:51 2020

Elapsed time: 0.556357s

Amount of swaps: 536179

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:51 2020

Elapsed time: 0.562352s

Amount of swaps: 588825

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:52 2020

Elapsed time: 0.56105s

Amount of swaps: 558674

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:53 2020

Elapsed time: 0.55867s

Amount of swaps: 581331

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:53 2020

Elapsed time: 0.524191s

Amount of swaps: 620533

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:54 2020

Elapsed time: 0.6668s

Amount of swaps: 637564

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:54 2020

Elapsed time: 0.536764s

Amount of swaps: 583177

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:55 2020

Elapsed time: 0.515072s

Amount of swaps: 717667

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:55 2020

Elapsed time: 0.54457s

Amount of swaps: 631653

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:56 2020

Elapsed time: 0.556699s

Amount of swaps: 526008

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:56 2020

Elapsed time: 0.570025s

Amount of swaps: 505727

Sorted Correctly!

Working on an array of size 110000

Finished at Fri Mar 6 17:50:57 2020

Elapsed time: 0.551956s

Amount of swaps: 584637

Sorted Correctly!

Average Work of test case: 110000

= 583090

Working on an array of size 160000

Finished at Fri Mar 6 17:50:58 2020

Elapsed time: 0.985795s

Amount of swaps: 878878

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:50:59 2020

Elapsed time: 0.916816s

Amount of swaps: 765555

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:00 2020

Elapsed time: 0.984698s

Amount of swaps: 1077793

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:01 2020

Elapsed time: 0.933347s

Amount of swaps: 979188

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:02 2020

Elapsed time: 0.992167s

Amount of swaps: 925320

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:03 2020

Elapsed time: 0.912987s

Amount of swaps: 860053

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:04 2020

Elapsed time: 0.984004s

Amount of swaps: 768642

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:05 2020

Elapsed time: 0.966546s

Amount of swaps: 938061

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:06 2020

Elapsed time: 0.940289s

Amount of swaps: 870610

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:07 2020

Elapsed time: 1.00748s

Amount of swaps: 850516

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:08 2020

Elapsed time: 0.921928s

Amount of swaps: 853663

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:09 2020

Elapsed time: 0.992821s

Amount of swaps: 790101

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:10 2020

Elapsed time: 0.924335s

Amount of swaps: 822181

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:11 2020

Elapsed time: 0.91915s

Amount of swaps: 808552

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:12 2020

Elapsed time: 0.988541s

Amount of swaps: 915164

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:12 2020

Elapsed time: 0.946429s

Amount of swaps: 835425

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:13 2020

Elapsed time: 0.99492s

Amount of swaps: 1021082

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:14 2020

Elapsed time: 0.913222s

Amount of swaps: 765202

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:15 2020

Elapsed time: 0.986405s

Amount of swaps: 796756

Sorted Correctly!

Working on an array of size 160000

Finished at Fri Mar 6 17:51:16 2020

Elapsed time: 0.995006s

Amount of swaps: 825138

Sorted Correctly!

Average Work of test case: 160000

= 867394

Working on an array of size 210000

Finished at Fri Mar 6 17:51:18 2020

Elapsed time: 1.49747s

Amount of swaps: 1276285

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:19 2020

Elapsed time: 1.55999s

Amount of swaps: 1243145

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:21 2020

Elapsed time: 1.49247s

Amount of swaps: 1158871

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:22 2020

Elapsed time: 1.47684s

Amount of swaps: 1100672

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:24 2020

Elapsed time: 1.47477s

Amount of swaps: 1100210

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:25 2020

Elapsed time: 1.5524s

Amount of swaps: 1344424

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:27 2020

Elapsed time: 1.53445s

Amount of swaps: 1050399

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:29 2020

Elapsed time: 1.53362s

Amount of swaps: 1289905

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:30 2020

Elapsed time: 1.56336s

Amount of swaps: 1179080

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:32 2020

Elapsed time: 1.50044s

Amount of swaps: 1383033

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:33 2020

Elapsed time: 1.41436s

Amount of swaps: 1359699

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:35 2020

Elapsed time: 1.48701s

Amount of swaps: 1168391

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:36 2020

Elapsed time: 1.48136s

Amount of swaps: 1086841

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:38 2020

Elapsed time: 1.57888s

Amount of swaps: 1276509

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:39 2020

Elapsed time: 1.51027s

Amount of swaps: 1294938

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:41 2020

Elapsed time: 1.53041s

Amount of swaps: 1142831

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:42 2020

Elapsed time: 1.58693s

Amount of swaps: 1033313

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:44 2020

Elapsed time: 1.48219s

Amount of swaps: 1016840

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:45 2020

Elapsed time: 1.41784s

Amount of swaps: 1197079

Sorted Correctly!

Working on an array of size 210000

Finished at Fri Mar 6 17:51:47 2020

Elapsed time: 1.51878s

Amount of swaps: 1135033

Sorted Correctly!

Average Work of test case: 210000

= 1191874

Working on an array of size 260000

Finished at Fri Mar 6 17:51:49 2020

Elapsed time: 2.27104s

Amount of swaps: 1366833

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:51:51 2020

Elapsed time: 2.20123s

Amount of swaps: 1337900

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:51:53 2020

Elapsed time: 2.11967s

Amount of swaps: 1397385

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:51:56 2020

Elapsed time: 2.26923s

Amount of swaps: 1273959

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:51:58 2020

Elapsed time: 2.21958s

Amount of swaps: 1474509

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:00 2020

Elapsed time: 2.20268s

Amount of swaps: 1542069

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:02 2020

Elapsed time: 2.26305s

Amount of swaps: 1305486

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:05 2020

Elapsed time: 2.22515s

Amount of swaps: 1461351

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:07 2020

Elapsed time: 2.19831s

Amount of swaps: 1393799

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:09 2020

Elapsed time: 2.24321s

Amount of swaps: 1500875

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:11 2020

Elapsed time: 2.176s

Amount of swaps: 1545476

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:13 2020

Elapsed time: 2.23714s

Amount of swaps: 1443088

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:16 2020

Elapsed time: 2.17407s

Amount of swaps: 1362834

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:18 2020

Elapsed time: 2.19696s

Amount of swaps: 1306078

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:20 2020

Elapsed time: 2.25763s

Amount of swaps: 1397715

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:22 2020

Elapsed time: 2.19127s

Amount of swaps: 1451717

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:25 2020

Elapsed time: 2.26461s

Amount of swaps: 1355747

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:27 2020

Elapsed time: 2.24862s

Amount of swaps: 1548488

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:29 2020

Elapsed time: 2.19076s

Amount of swaps: 1549404

Sorted Correctly!

Working on an array of size 260000

Finished at Fri Mar 6 17:52:31 2020

Elapsed time: 2.27164s

Amount of swaps: 1410220

Sorted Correctly!

Average Work of test case: 260000

= 1421246

Working on an array of size 310000

Finished at Fri Mar 6 17:52:34 2020

Elapsed time: 3.03528s

Amount of swaps: 1586943

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:38 2020

Elapsed time: 3.15833s

Amount of swaps: 1513416

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:41 2020

Elapsed time: 3.07317s

Amount of swaps: 1624689

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:44 2020

Elapsed time: 2.95096s

Amount of swaps: 1562183

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:47 2020

Elapsed time: 3.06602s

Amount of swaps: 1413351

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:50 2020

Elapsed time: 3.1397s

Amount of swaps: 2014650

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:53 2020

Elapsed time: 3.09685s

Amount of swaps: 1741727

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:56 2020

Elapsed time: 2.95429s

Amount of swaps: 1501155

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:52:59 2020

Elapsed time: 3.04812s

Amount of swaps: 1612830

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:02 2020

Elapsed time: 3.33296s

Amount of swaps: 1860411

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:05 2020

Elapsed time: 3.09091s

Amount of swaps: 1542891

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:08 2020

Elapsed time: 2.96148s

Amount of swaps: 1843616

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:11 2020

Elapsed time: 3.03206s

Amount of swaps: 1581622

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:15 2020

Elapsed time: 3.10904s

Amount of swaps: 1649728

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:18 2020

Elapsed time: 3.06285s

Amount of swaps: 1630814

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:21 2020

Elapsed time: 2.94902s

Amount of swaps: 1723278

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:24 2020

Elapsed time: 2.99411s

Amount of swaps: 1531356

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:27 2020

Elapsed time: 3.04751s

Amount of swaps: 1798658

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:30 2020

Elapsed time: 3.17752s

Amount of swaps: 1667566

Sorted Correctly!

Working on an array of size 310000

Finished at Fri Mar 6 17:53:33 2020

Elapsed time: 2.97077s

Amount of swaps: 2033195

Sorted Correctly!

Average Work of test case: 310000

= 1671703

Working on an array of size 360000

Finished at Fri Mar 6 17:53:37 2020

Elapsed time: 4.05872s

Amount of swaps: 2228188

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:53:41 2020

Elapsed time: 4.09272s

Amount of swaps: 1828418

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:53:45 2020

Elapsed time: 3.96407s

Amount of swaps: 2018178

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:53:49 2020

Elapsed time: 4.10011s

Amount of swaps: 1937642

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:53:53 2020

Elapsed time: 4.14418s

Amount of swaps: 1937033

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:53:57 2020

Elapsed time: 4.00215s

Amount of swaps: 1914919

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:01 2020

Elapsed time: 4.06974s

Amount of swaps: 1770183

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:06 2020

Elapsed time: 4.13642s

Amount of swaps: 2152076

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:10 2020

Elapsed time: 4.00371s

Amount of swaps: 2144668

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:14 2020

Elapsed time: 4.0449s

Amount of swaps: 1822714

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:18 2020

Elapsed time: 4.12071s

Amount of swaps: 1734435

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:22 2020

Elapsed time: 3.97574s

Amount of swaps: 1929755

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:26 2020

Elapsed time: 4.05758s

Amount of swaps: 2059077

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:30 2020

Elapsed time: 4.15243s

Amount of swaps: 1943537

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:34 2020

Elapsed time: 4.06847s

Amount of swaps: 2166293

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:38 2020

Elapsed time: 4.0709s

Amount of swaps: 2097474

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:42 2020

Elapsed time: 4.12245s

Amount of swaps: 1720032

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:46 2020

Elapsed time: 3.98743s

Amount of swaps: 2059822

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:50 2020

Elapsed time: 4.04762s

Amount of swaps: 2183051

Sorted Correctly!

Working on an array of size 360000

Finished at Fri Mar 6 17:54:54 2020

Elapsed time: 4.12946s

Amount of swaps: 1858827

Sorted Correctly!

Average Work of test case: 360000

= 1975316

Working on an array of size 410000

Finished at Fri Mar 6 17:55:00 2020

Elapsed time: 5.01687s

Amount of swaps: 1958762

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:05 2020

Elapsed time: 5.17682s

Amount of swaps: 2402687

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:10 2020

Elapsed time: 5.26284s

Amount of swaps: 2042737

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:15 2020

Elapsed time: 4.64395s

Amount of swaps: 2909565

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:20 2020

Elapsed time: 5.20216s

Amount of swaps: 1853142

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:25 2020

Elapsed time: 5.25032s

Amount of swaps: 2361889

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:30 2020

Elapsed time: 4.76407s

Amount of swaps: 3092046

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:35 2020

Elapsed time: 5.18026s

Amount of swaps: 2278076

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:41 2020

Elapsed time: 5.32513s

Amount of swaps: 1877951

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:45 2020

Elapsed time: 4.60964s

Amount of swaps: 1895832

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:50 2020

Elapsed time: 5.18361s

Amount of swaps: 2359662

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:55:56 2020

Elapsed time: 5.3427s

Amount of swaps: 3412445

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:00 2020

Elapsed time: 4.65953s

Amount of swaps: 2108688

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:06 2020

Elapsed time: 5.21688s

Amount of swaps: 2500081

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:11 2020

Elapsed time: 5.27681s

Amount of swaps: 2099501

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:16 2020

Elapsed time: 4.65815s

Amount of swaps: 2457927

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:21 2020

Elapsed time: 5.30561s

Amount of swaps: 2271149

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:26 2020

Elapsed time: 5.26487s

Amount of swaps: 2671162

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:32 2020

Elapsed time: 5.81404s

Amount of swaps: 2403573

Sorted Correctly!

Working on an array of size 410000

Finished at Fri Mar 6 17:56:38 2020

Elapsed time: 5.53495s

Amount of swaps: 2199091

Sorted Correctly!

Average Work of test case: 410000

= 2357798