Data Structure and Algorithms

(HackerEarth solved Quiz) 2022

<https://www.hackerearth.com/practice/codemonk/>

Devarshi Gohel

AIMDek Trainee

--Monk and Rotation

t = int(raw\_input())

while t != 0:

n,k = map(int, raw\_input().split())

arr = map(int, raw\_input().split());

index = n - (k%n)

for i in range(index,n):

print(arr[i]),

for i in range(index):

print(arr[i]),

print("")

t-=1

-- Monk and Inversions

test = int(input())

while test != 0:

n = int(input())

arr = []

for i in range(n):

arr.append(map(int, raw\_input().split()))

count = 0;

for i in range(n):

for j in range(n):

for k in range(i,n):

for l in range(j,n):

if arr[i][j] > arr[k][l]:

count += 1

print(count);

test -= 1

-- Cyclic Shift

t = int(raw\_input())

while t != 0:

n,k = map(int, raw\_input().split())

s = raw\_input()

p = -1

max = ""

for i in range(n):

if max < s:

max = s

d = i

elif max == s:

p = i - d

break

s = s[1:] + s[:1]

if p == -1:

print(d+(k-1)\*n)

else:

print(d+(k-1)\*p)

print("")

t -= 1

-- Minimum AND xor OR

t = int(raw\_input())

while t != 0:

n = int(raw\_input())

arr = map(int, raw\_input().split(' '))

arr.sort()

min = arr[0] ^ arr[1]

for i in range(1,n-1):

temp = arr[i] ^ arr[i+1]

if temp < min:

min = temp

print(min)

print("")

t-=1

-- Monk and Nice Strings

import java.util.\*;

class TestClass {

public static void main(String args[] ) throws Exception {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

String array[] = new String[n];

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

array[i] = sc.next();

int counter = 0;

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

if(array[j].compareTo(array[i]) < 0){

counter++;

}

}

System.out.println(counter);

}

}

}

--Monk and Suffix Sort

import java.util.\*;

class TestClass {

public static void main(String args[] ) throws Exception {

Scanner sc = new Scanner(System.in);

String str = sc.next();

String strarray[] = new String[str.length()];

int k = sc.nextInt();

// System.out.print(str);

// System.out.print(k);

for(int i=0 ; i<str.length() ; i++){

strarray[i] = str.substring(i);

}

// System.out.print(Arrays.toString(strarray));

Arrays.sort(strarray);

System.out.println(strarray[k-1]);

}

}

--Monk being monitor

import java.util.\*;

class MonkBeingMonitor {

public static void main(String args[]) throws Exception {

Scanner sc = new Scanner(System.in);

int t = sc.nextInt();

while (t != 0) {

int n = sc.nextInt();

int a[] = new int[n];

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

a[i] = sc.nextInt();

}

HashMap<Integer, String> h = new HashMap<Integer, String>();

for (int i = 0; i < a.length; i++) {

if (h.containsKey(a[i])) {

int value = Integer.parseInt(h.get(a[i]));

value++;

h.put(a[i], Integer.toString(value));

} else {

h.put(a[i], "1");

}

}

int max = 0;

int min = 1000000;

for (int i = 0; i < a.length; i++) {

if (Integer.parseInt(h.get(a[i])) > max) {

max = Integer.parseInt(h.get(a[i]));

}

if (Integer.parseInt(h.get(a[i])) < min) {

min = Integer.parseInt(h.get(a[i]));

}

}

if(min==max)

System.out.println(-1);

else

System.out.println(max-min);

t--;

}

sc.close();

}

}

-- Monk and sorting algorithm

n = int(input())

arr = list(map(int, raw\_input().strip().split(" ")))

max\_arr = max(arr)

mul = 1

r = 10 \*\* 5

while max\_arr:

arr.sort(key = lambda x: (x/mul)%r)

print(' '.join(map(str,arr)))

mul \*= r

max\_arr //= r