Data Structure and Algorithms

(Hacker Earth solved Quiz) 2022

Name: Mohini Parmar

AIMDek Trainee

-----------------------------------------------------------------------------------------------------------------------------

**Q 1) Monk and Rotation**

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

Java Source Code:

import java.io.\*;

import java.util.StringTokenizer;

class TestClass {

public static int getIndex(String str, int n)

{

int index = str.length();

while (n > 0){

index--;

if(str.charAt(index) == ' ')

n--;

}

return index+1;

}

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

BufferedReader br = new BufferedReader(

new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine());

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

StringTokenizer st = new StringTokenizer(br.readLine());

int n = Integer.parseInt(st.nextToken());

int k = Integer.parseInt(st.nextToken());

String s = br.readLine();

k = k%n;

if (k == 0)

System.out.print(s);

else{

int index = getIndex(s,k);

System.out.print(s.substring(index, s.length()));

System.out.print(" ");

System.out.print(s.substring(0,index));

}

System.out.println();

}

}

}

-----------------------------------------------------------------------------------------------------------------------------

**Q 2) Monk and Inversions**

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

Java Source Code:

import java.util.\*;

class TestClass {

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 arr[][] = new int[N][N];

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

{

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

{

arr[i][j] = sc.nextInt();

}

}

int count=0;

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

{

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

{

for(int m=i;m<N; m++)

{

for(int n=j;n<N ;n++)

{

if(arr[i][j]>arr[m][n])

{

count++;

}

}

}

}

}

System.out.println(count);

T--;

}

}

}

-----------------------------------------------------------------------------------------------------------------------------

**Q 3) Minimum AND xor OR**

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

Java Source Code:

import java.util.\*;

import java.lang.Math;

class TestClass {

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 arr[] = new int[N];

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

{

arr[i] = sc.nextInt();

}

Arrays.sort(arr);

int min = arr[0]^arr[1];

for(int i=1;i<N-1;i++)

{

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

if(temp<min)

{

min = temp;

}

}

System.out.println(min);

T--;

}

}

}

-----------------------------------------------------------------------------------------------------------------------------

**Q 4) Monk and Nice Strings**

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

Java Source Code:

import java.util.\*;

import java.lang.\*;

class TestClass {

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

Scanner sc = new Scanner(System.in);

int n = Integer.parseInt(sc.nextLine());

String str[] = new String[n];

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

{

int count =0;

str[i] = sc.nextLine();

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

{

if((str[i].compareTo(str[j]))>0)

count++;

}

System.out.println(count);

}

}

}

-----------------------------------------------------------------------------------------------------------------------------

**Q 4) Monk and Suffix Sort**

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

Java Source Code:

class TestClass {

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

Scanner sc = new Scanner(System.in);

String s = sc.nextLine();

String str = s.split(" ")[0];

int len = str.length();

int n = Integer.parseInt(s.split(" ")[1]);

String arr[] = new String[len];

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

{

arr[i] = str;

str = new String(str.substring(1));

}

Arrays.sort(arr);

System.out.println(arr[n-1]);

}

}