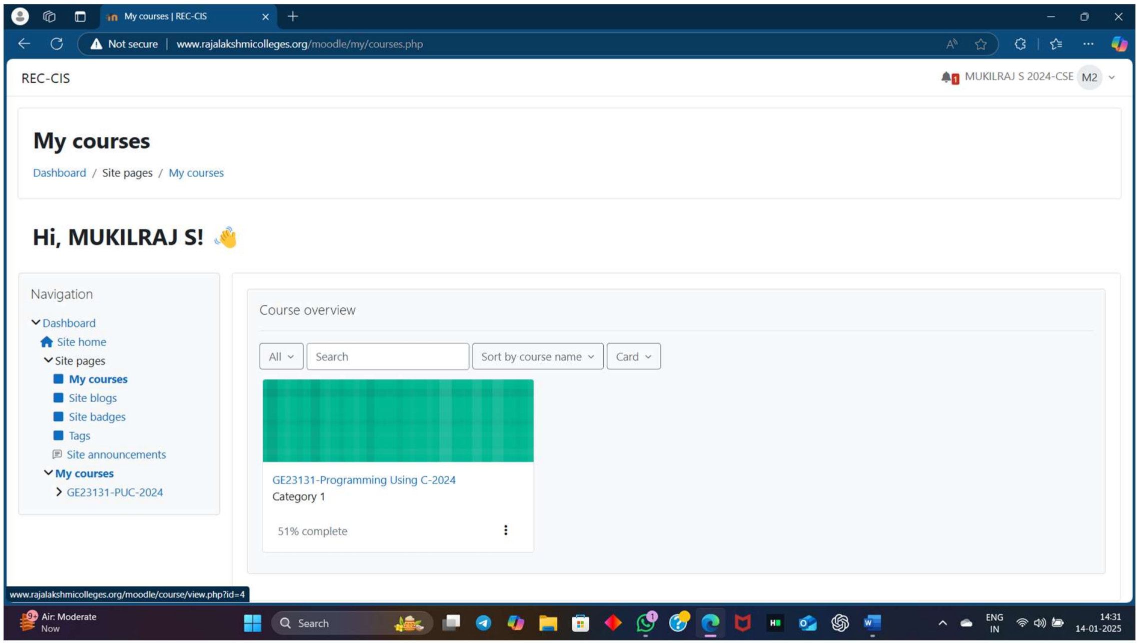
Week 8



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GE23131-Programming Using C-2024
Category 1

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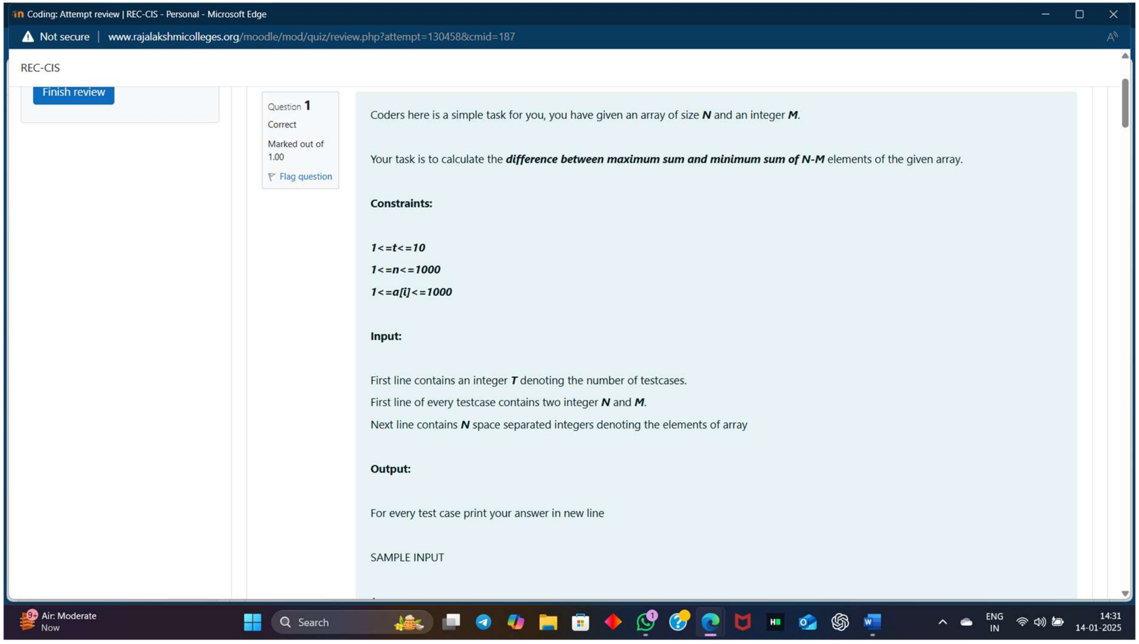

Coding: Attempt review | REC-CIS - Personal - Microsoft Edge

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REC-CIS

Finish review

Question 1
Correct
Marked out of 1.00
Flag question

Coders here is a simple task for you, you have given an array of size ***N*** and an integer ***M***.

Your task is to calculate the ***difference between maximum sum and minimum sum of N-M*** elements of the given array.

Constraints:

1<=t<=10
1<=n<=1000
1<=a[i]<=1000

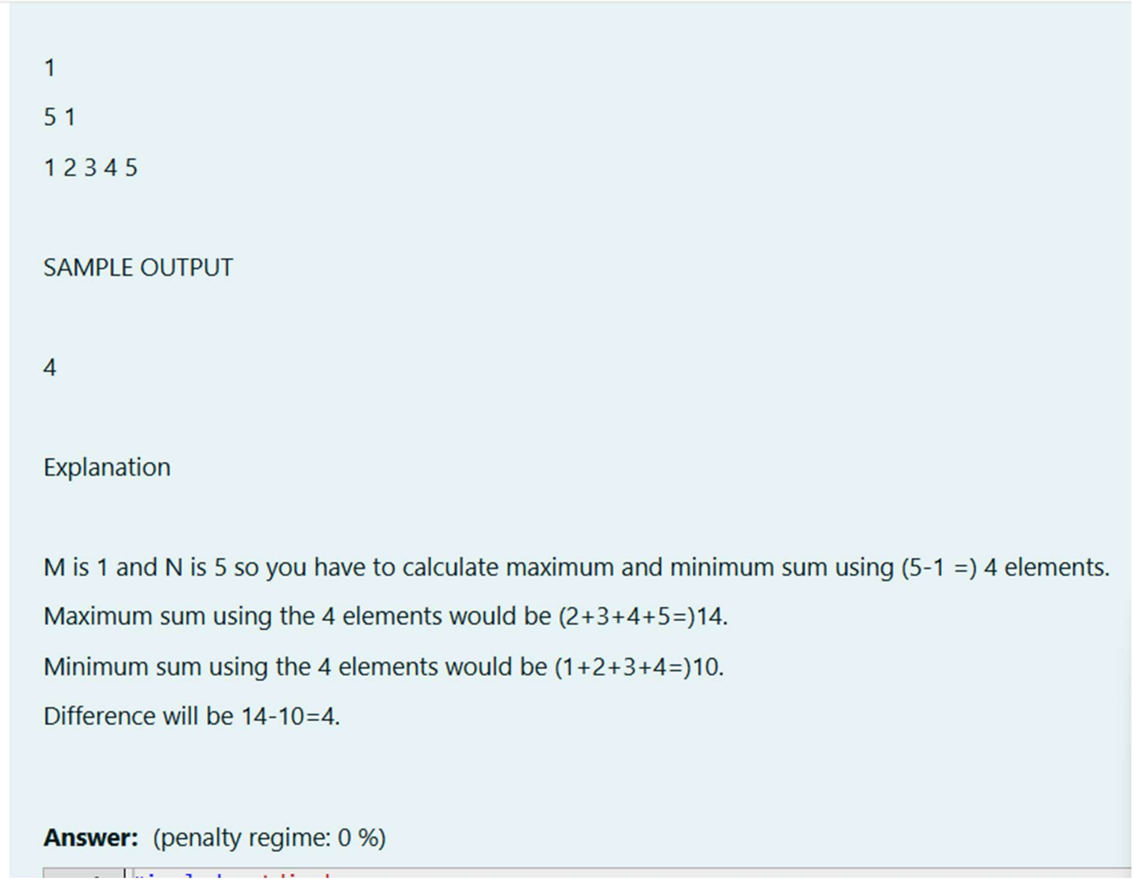
Input:

First line contains an integer ***T*** denoting the number of testcases.
First line of every testcase contains two integer ***N*** and ***M***.
Next line contains ***N*** space separated integers denoting the elements of array

Output:

For every test case print your answer in new line

SAMPLE INPUT



```
1
5 1
1 2 3 4 5
```

SAMPLE OUTPUT

```
4
```

Explanation

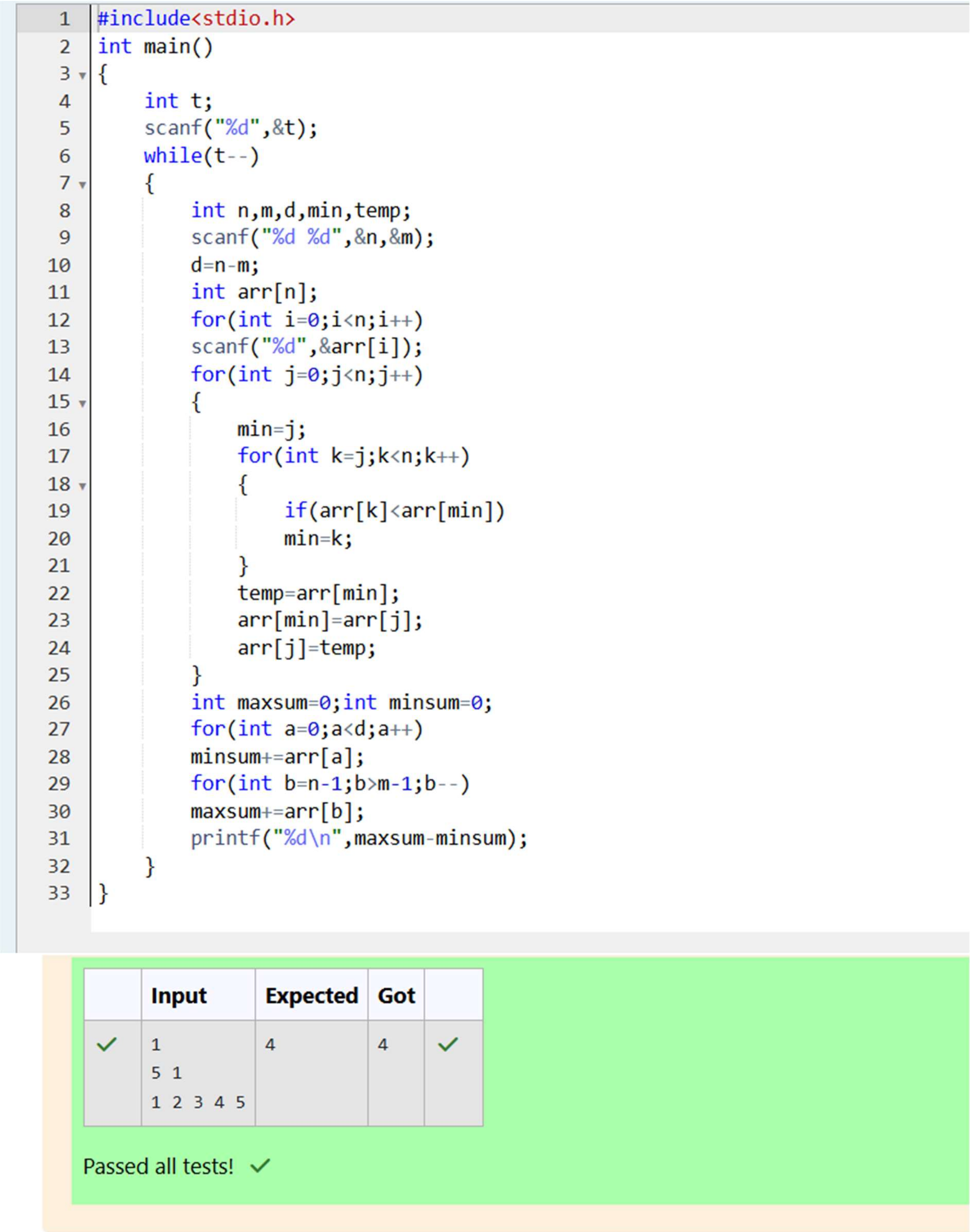
M is 1 and N is 5 so you have to calculate maximum and minimum sum using (5-1 =) 4 elements.

Maximum sum using the 4 elements would be (2+3+4+5=)14.

Minimum sum using the 4 elements would be (1+2+3+4=)10.

Difference will be 14-10=4.

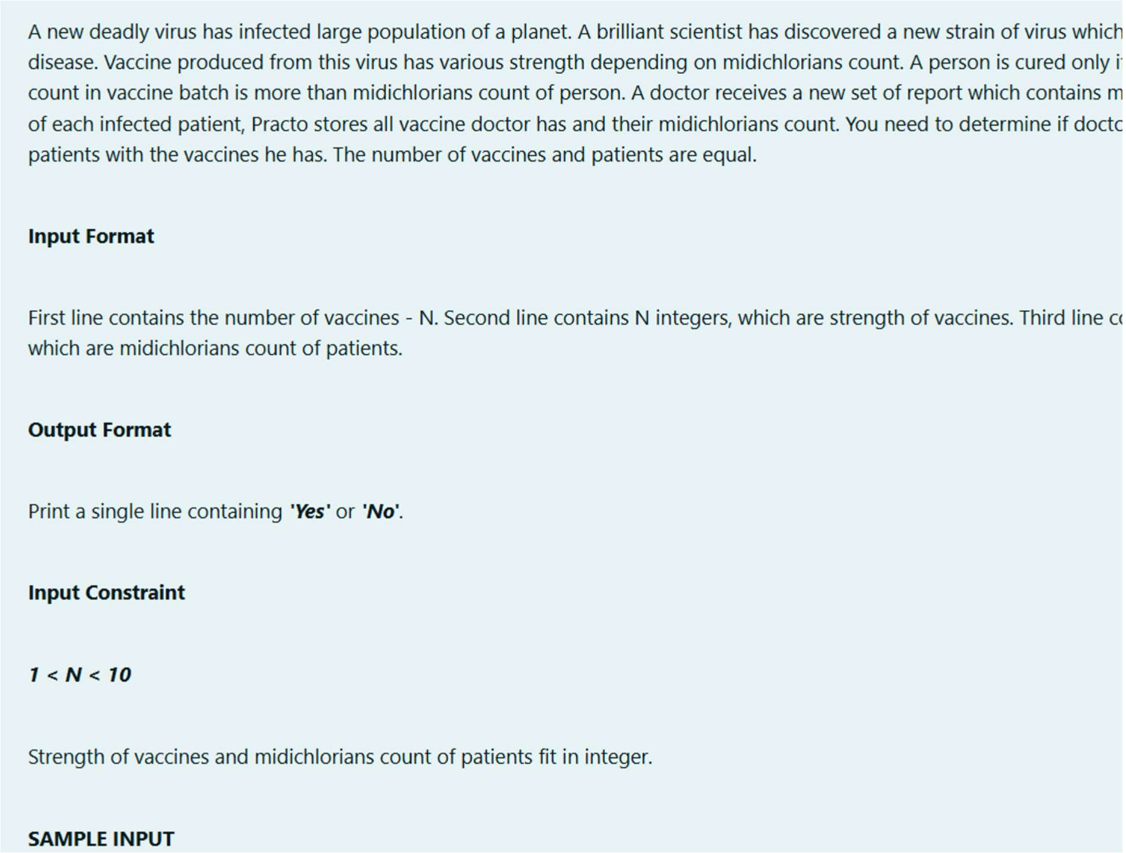
Answer: (penalty regime: 0 %)



```c
#include<stdio.h>
int main()
{
    int t;
    scanf("%d",&t);
    while(t--)
    {
        int n,m,d,min,temp;
        scanf("%d %d",&n,&m);
        d=n-m;
        int arr[n];
        for(int i=0;i<n;i++)
        scanf("%d",&arr[i]);
        for(int j=0;j<n;j++)
        {
            min=j;
            for(int k=j;k<n;k++)
            {
                if(arr[k]<arr[min])
                min=k;
            }
            temp=arr[min];
            arr[min]=arr[j];
            arr[j]=temp;
        }
        int maxsum=0;int minsum=0;
        for(int a=0;a<d;a++)
        minsum+=arr[a];
        for(int b=n-1;b>m-1;b--)
        maxsum+=arr[b];
        printf("%d\n",maxsum-minsum);
    }
}
```

	Input	Expected	Got	
✓	1 5 1 1 2 3 4 5	4	4	✓

Passed all tests! ✓



A new deadly virus has infected large population of a planet. A brilliant scientist has discovered a new strain of virus which disease. Vaccine produced from this virus has various strength depending on midichlorians count. A person is cured only i count in vaccine batch is more than midichlorians count of person. A doctor receives a new set of report which contains m of each infected patient, Practo stores all vaccine doctor has and their midichlorians count. You need to determine if docto patients with the vaccines he has. The number of vaccines and patients are equal.

Input Format

First line contains the number of vaccines - N. Second line contains N integers, which are strength of vaccines. Third line c which are midichlorians count of patients.

Output Format

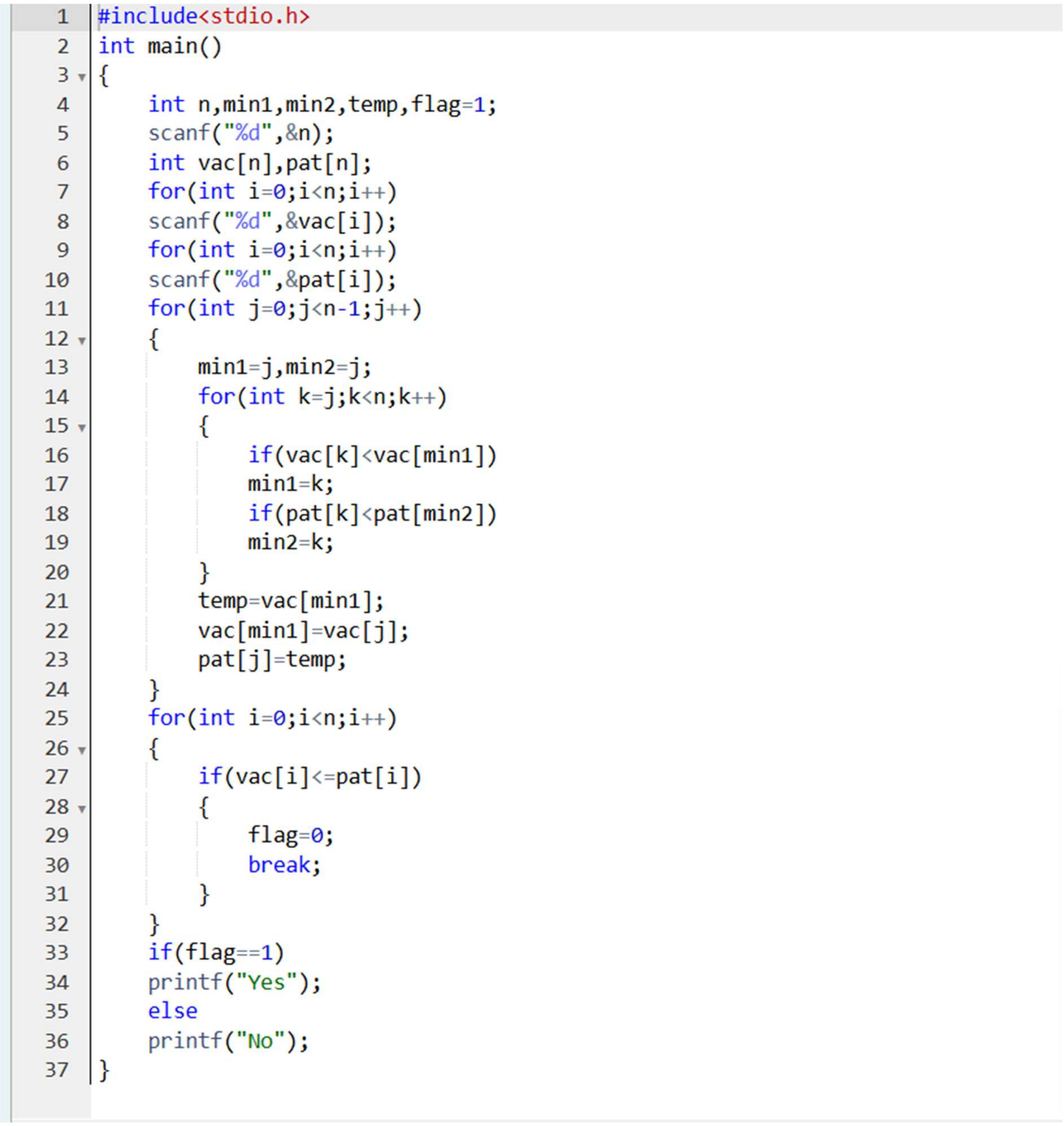
Print a single line containing ***'Yes'*** or ***'No'***.

Input Constraint

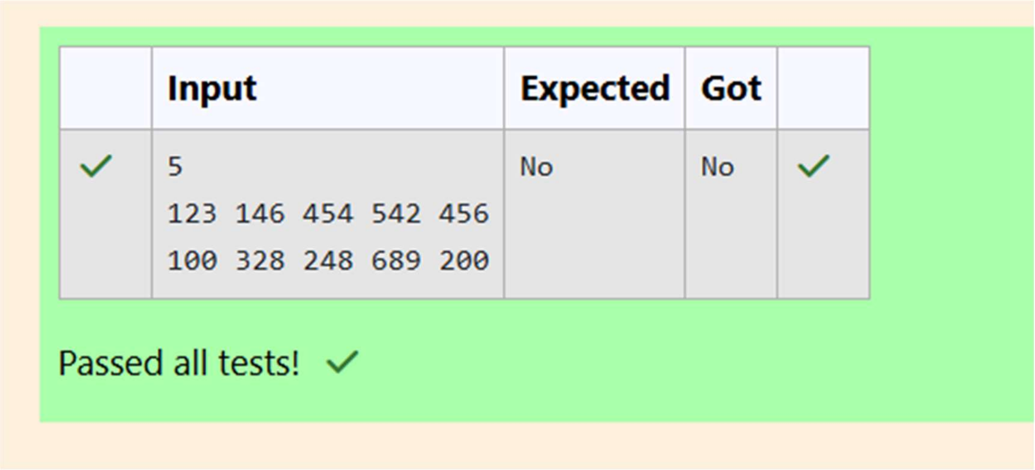
1 < N < 10

Strength of vaccines and midichlorians count of patients fit in integer.

SAMPLE INPUT

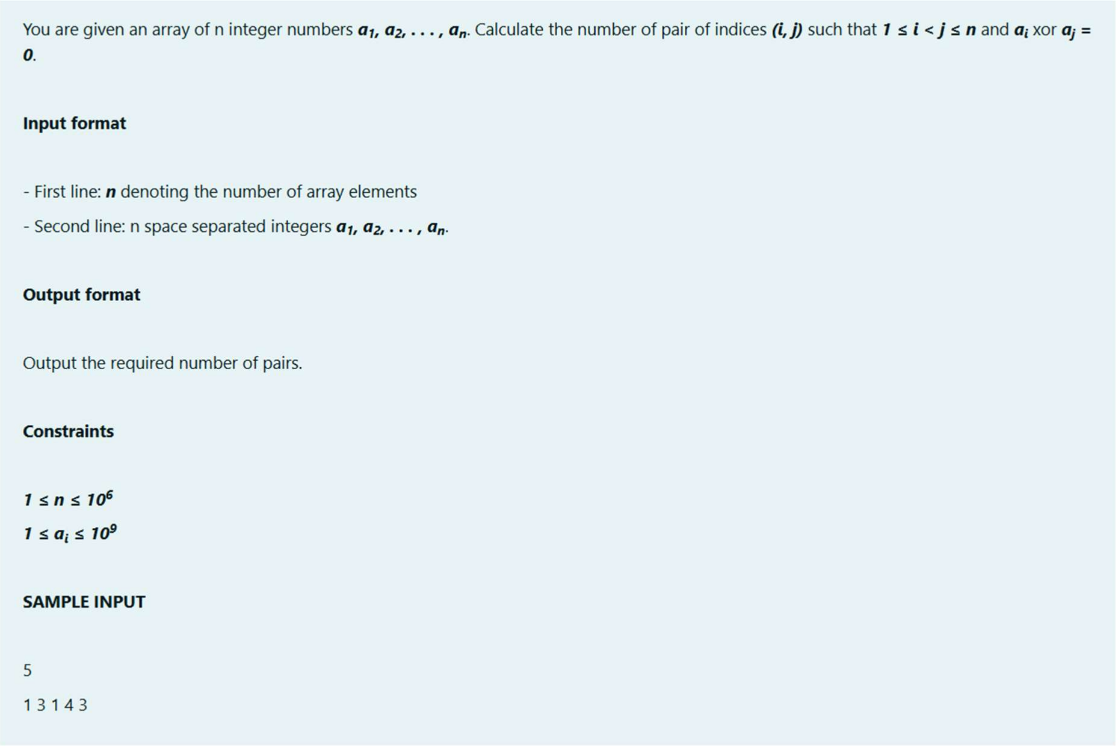


```c
#include<stdio.h>
int main()
{
    int n,min1,min2,temp,flag=1;
    scanf("%d",&n);
    int vac[n],pat[n];
    for(int i=0;i<n;i++)
    scanf("%d",&vac[i]);
    for(int i=0;i<n;i++)
    scanf("%d",&pat[i]);
    for(int j=0;j<n-1;j++)
    {
        min1=j,min2=j;
        for(int k=j;k<n;k++)
        {
            if(vac[k]<vac[min1])
            min1=k;
            if(pat[k]<pat[min2])
            min2=k;
        }
        temp=vac[min1];
        vac[min1]=vac[j];
        pat[j]=temp;
    }
    for(int i=0;i<n;i++)
    {
        if(vac[i]<=pat[i])
        {
            flag=0;
            break;
        }
    }
    if(flag==1)
    printf("Yes");
    else
    printf("No");
}
```



	Input	Expected	Got	
✓	5 123 146 454 542 456 100 328 248 689 200	No	No	✓

Passed all tests! ✓



You are given an array of n integer numbers $a_1, a_2, . . . , a_n$. Calculate the number of pair of indices (i, j) such that $1 \le i < j \le n$ and a_i xor $a_j = 0$.

Input format

- First line: n denoting the number of array elements

- Second line: n space separated integers $a_1, a_2, . . . , a_n$.

Output format

Output the required number of pairs.

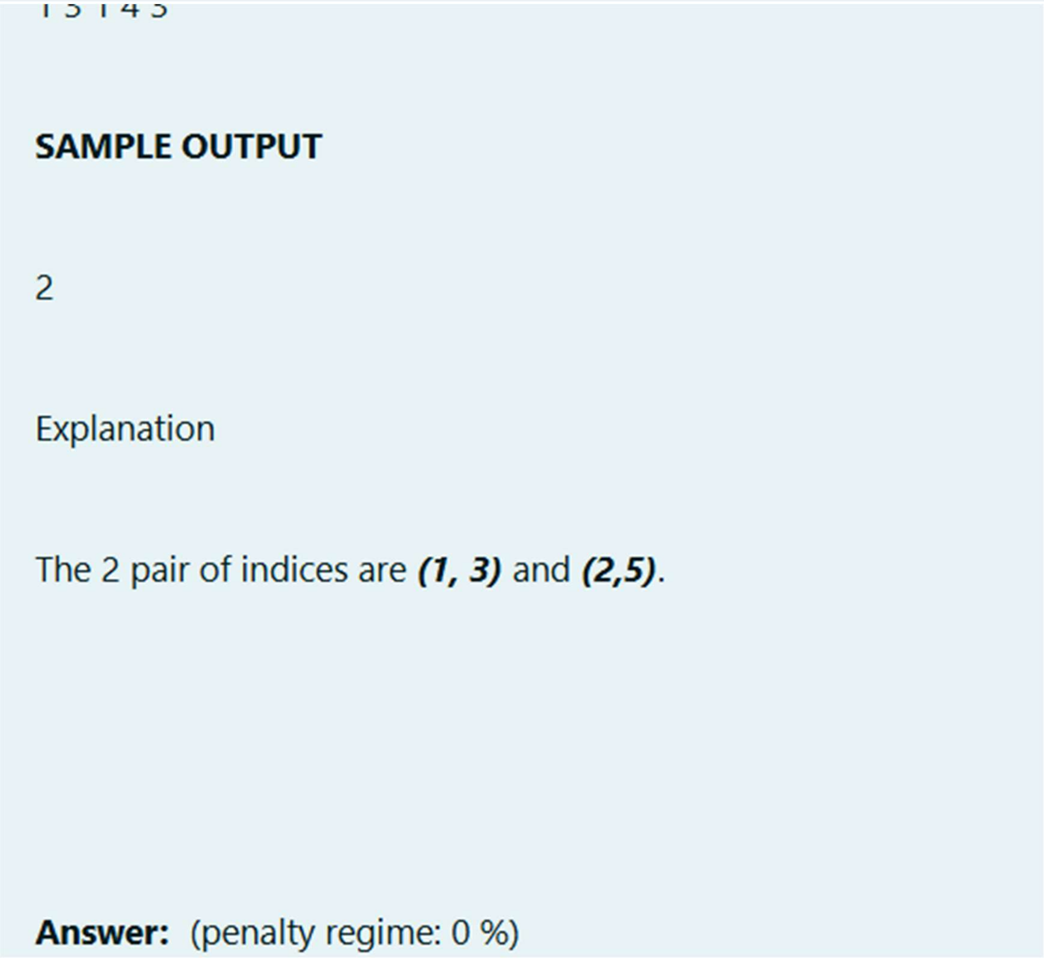
Constraints

$1 \le n \le 10^6$

$1 \le a_i \le 10^9$

SAMPLE INPUT

```
5
1 3 1 4 3
```



1 3 1 4 3

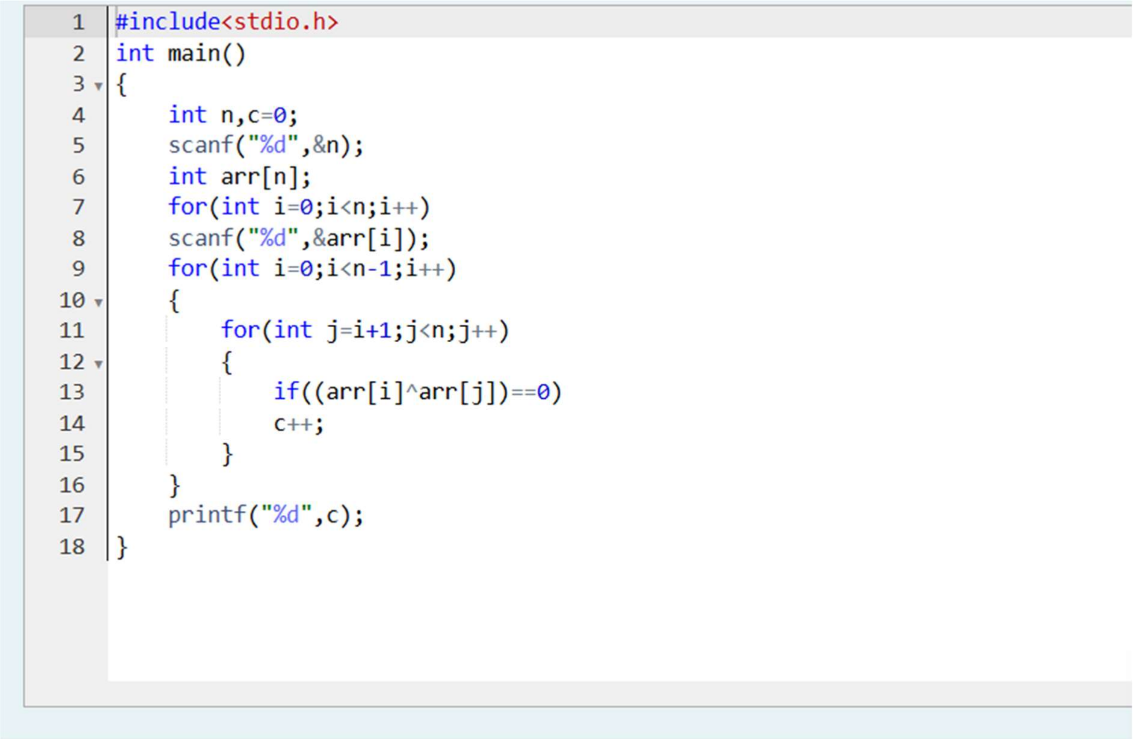
SAMPLE OUTPUT

```
2
```

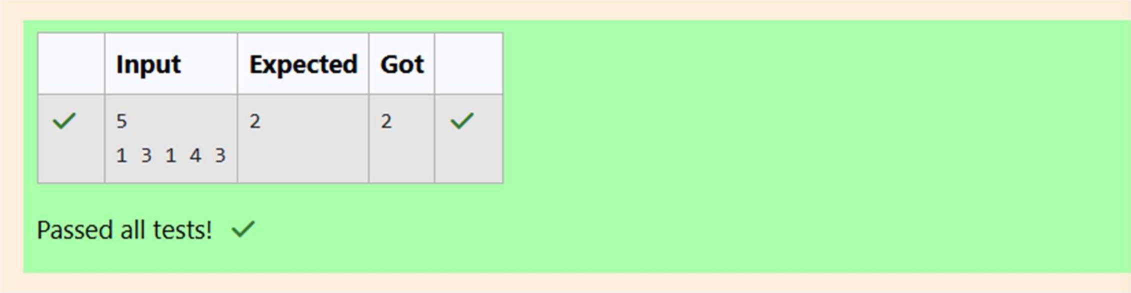
Explanation

The 2 pair of indices are ***(1, 3)*** and ***(2,5)***.

Answer: (penalty regime: 0 %)

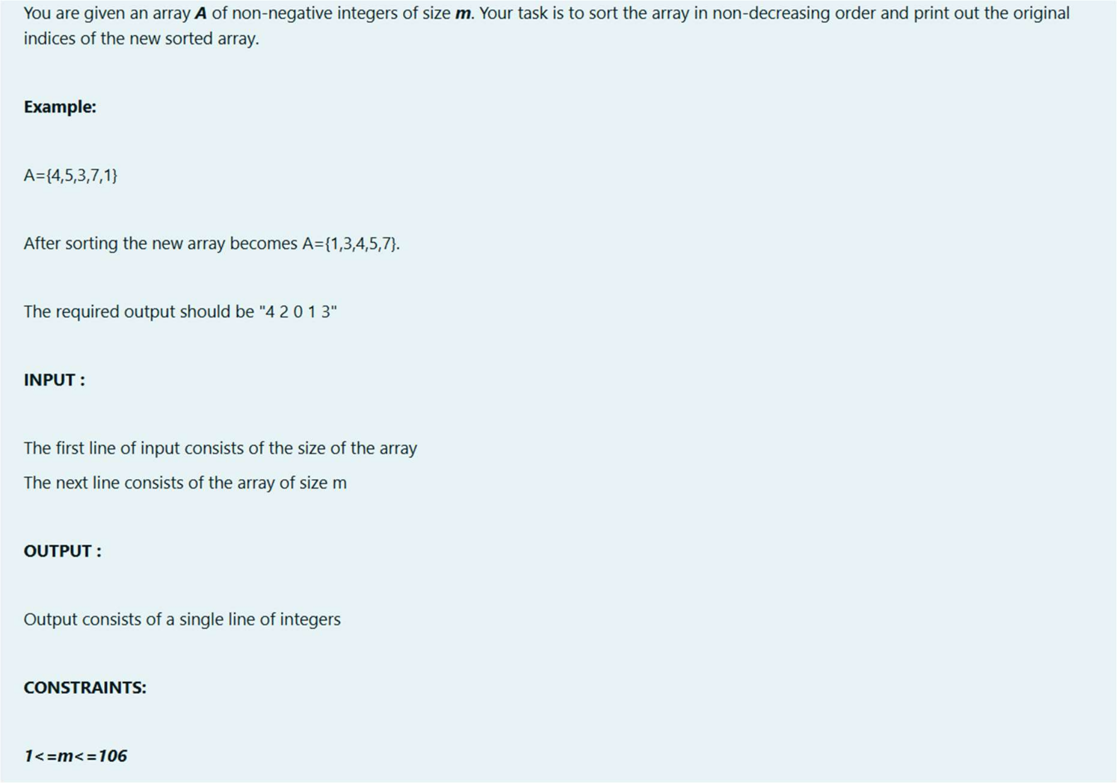


```c
#include<stdio.h>
int main()
{
    int n,c=0;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    scanf("%d",&arr[i]);
    for(int i=0;i<n-1;i++)
    {
        for(int j=i+1;j<n;j++)
        {
            if((arr[i]^arr[j])==0)
            c++;
        }
    }
    printf("%d",c);
}
```



	Input	Expected	Got	
✓	5 1 3 1 4 3	2	2	✓

Passed all tests! ✓



You are given an array ***A*** of non-negative integers of size ***m***. Your task is to sort the array in non-decreasing order and print out the original indices of the new sorted array.

Example:

A={4,5,3,7,1}

After sorting the new array becomes A={1,3,4,5,7}.

The required output should be "4 2 0 1 3"

INPUT :

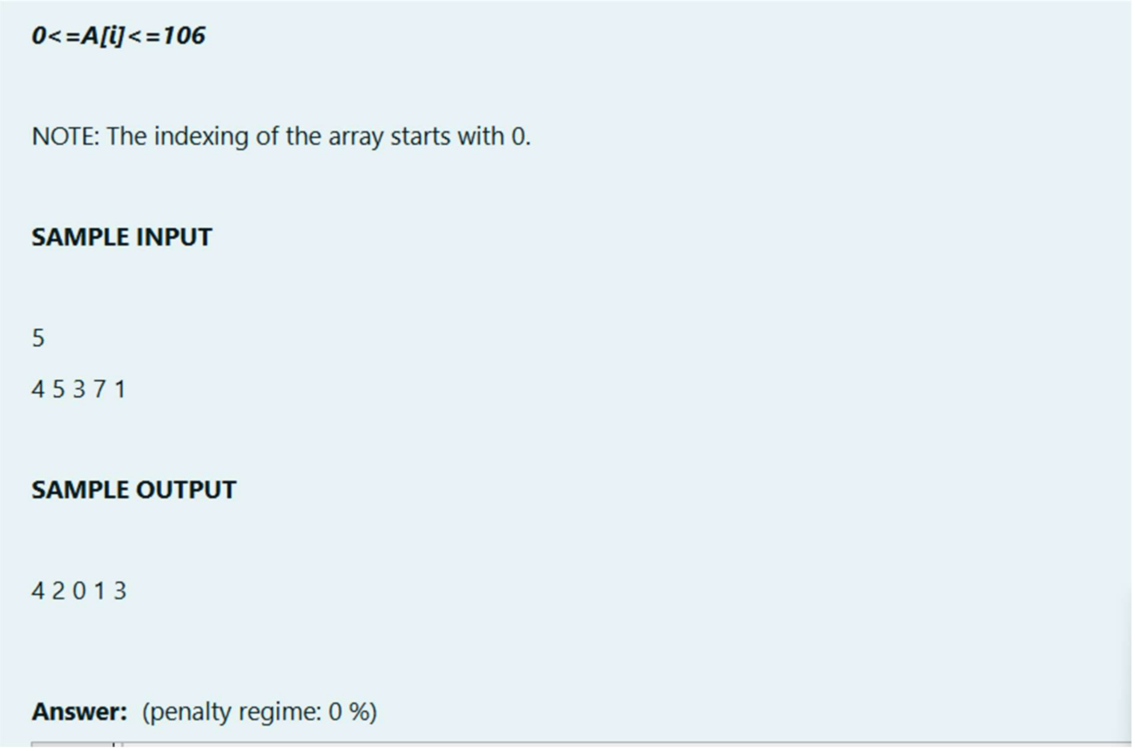
The first line of input consists of the size of the array
The next line consists of the array of size m

OUTPUT :

Output consists of a single line of integers

CONSTRAINTS:

1<=m<=106



0<=A[i]<=106

NOTE: The indexing of the array starts with 0.

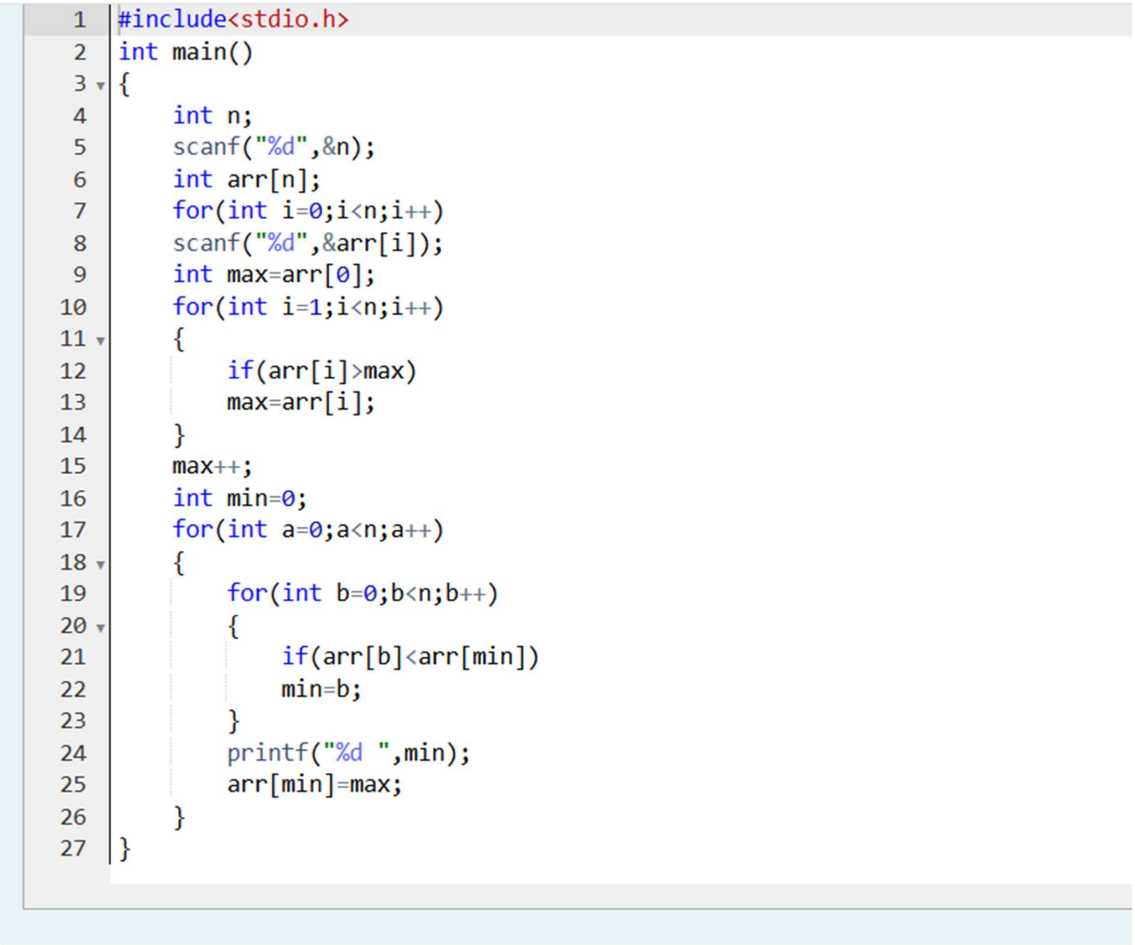
SAMPLE INPUT

```
5
4 5 3 7 1
```

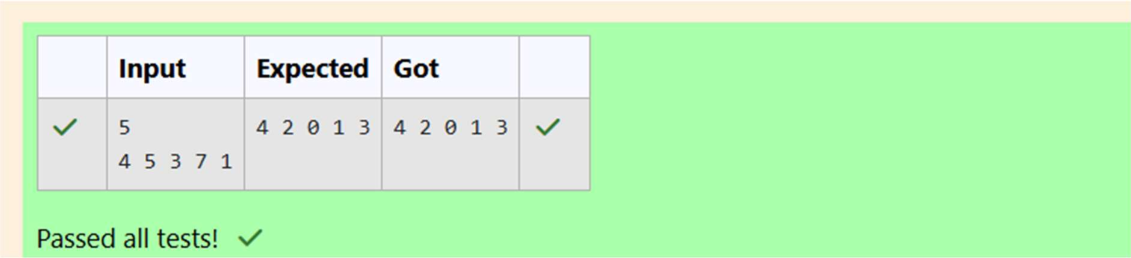
SAMPLE OUTPUT

```
4 2 0 1 3
```

Answer: (penalty regime: 0 %)



```c
#include<stdio.h>
int main()
{
    int n;
    scanf("%d",&n);
    int arr[n];
    for(int i=0;i<n;i++)
    scanf("%d",&arr[i]);
    int max=arr[0];
    for(int i=1;i<n;i++)
    {
        if(arr[i]>max)
        max=arr[i];
    }
    max++;
    int min=0;
    for(int a=0;a<n;a++)
    {
        for(int b=0;b<n;b++)
        {
            if(arr[b]<arr[min])
            min=b;
        }
        printf("%d ",min);
        arr[min]=max;
    }
}
```



	Input	Expected	Got	
✓	5 4 5 3 7 1	4 2 0 1 3	4 2 0 1 3	✓

Passed all tests! ✓