

## Week-08-Sorting Algorithms-Bubble and Selection

Dashboard / My courses / GE23131-PUC-2024 / Week-08-Sorting Algorithms-Bubble and Selection

### Navigation

- Dashboard
- Site home
- Site pages
- My courses
  - GE23131-PUC-2024
    - Participants
    - Competencies
    - Grades
    - General
    - Lecture Notes
    - Week-01-Overview of C, Constants, Variables and Da...
    - Assessment-01-Overview of C, Constants, Variables ...
    - Week-02-Operators and Expressions, Managing Input ...

Assessment-07-Searching Algorithms-Linear and Binary

Assessment-08-Sorting Algorithms-Bubble and Selection

Coding

Done

Assessment-07-Searching Algorithms-Linear and Binary

Jump to...

Assessment-08-Sorting Algorithms-Bubble and Selection

## GE23131-Programming Using C-2024

### Navigation

- Dashboard
- Site home
- Site pages
- My courses
  - GE23131-PUC-2024
    - Participants
    - Competencies
    - Grades
    - General
    - Lecture Notes
    - Week-01-Overview of C, Constants, Variables and Da...
    - Assessment-01-Overview of C, Constants, Variables ...
    - Week-02-Operators and Expressions, Managing Input ...
    - Assessment-02-Operators and Expressions, Managing

Attempts allowed: 3

This quiz has been configured so that students may only attempt it using the Safe Exam Browser.

Time limit: 1 hour 30 mins

Grading method: Highest grade

### Your attempts

#### Attempt 1

Status	Finished
Started	Tuesday, 24 December 2024, 10:35 AM
Completed	Tuesday, 24 December 2024, 11:31 AM
Duration	56 mins 18 secs

Review

The Safe Exam Browser keys could not be validated. Check that you're using Safe Exam Browser with the correct configuration file.

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

GE23131-Programming Using C-2024

Quiz navigation

1

2

3

4

Show one page at a time

Finish review

Status

Finished

Started

Tuesday, 24 December 2024, 10:35 AM

Completed

Tuesday, 24 December 2024, 11:31 AM

Duration

56 mins 18 secs

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:**  
  
 $T \leq t \leq 10$   
 $1 \leq n \leq 1000$   
 $1 \leq a[i] \leq 1000$

**Input:**  
  
First line contains an integer **T** denoting the number of testcases.  
First line of every testcase contains two integer **N** and **M**.

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

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.

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

Answer: (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int t;
5     scanf("%d",&t);
6     while(t-->0)
7     {
8         int n,m,d,min,temp;
9         scanf("%d %d %d",&n,&m,&d);
10        d=n-m;
11        int arr[n];
12        for(int i=0;i<n;i++)
13            scanf("%d",&arr[i]);
14        for(int j=0;j<n;j++)
15        {
16            min=j;
17            for(int k=j;k<n;k++)
18            {
19                if(arr[k]<arr[min])
20                    min=k;
21            }
22            temp=arr[min];
23            arr[min]=arr[j];
24            arr[j]=temp;
25        }
26        int maxsum=0,minsum=0;
27        for(int a=0;a<d;a++)
28            minsum+=arr[a];
29        for(int b=n-1;b>m-1;b--)
30            maxsum+=arr[b];
31        printf("%d\n",maxsum-minsum);
32    }
33 }
```

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

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

Passed all tests! ✓

Question 2  
Correct  
Marked out of 1.00  
[Flag question](#)

A new deadly virus has infected large population of a planet. A brilliant scientist has discovered a new strain of virus which can cure this disease. Vaccine produced from this virus has various strength depending on midichlorians count. A person is cured only if midichlorians count in vaccine batch is more than midichlorians count of person. A doctor receives a new set of report which contains midichlorians count of each infected patient, Practo stores all vaccine doctor has and their midichlorians count. You need to determine if doctor can save all 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 contains N integers, which are midichlorians count of patients.

**Output Format**

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

**Input Constraint**

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

**$1 < N < 10$**

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

**SAMPLE INPUT**

```
5
123 146 454 542 456
100 328 248 689 200
```

**SAMPLE OUTPUT**

No

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,min1,min2,temp,flag=1;
5     scanf("%d",&n);
6     int vac[n],pat[n];
7     for(int i=0;i<n;i++)
```

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

```
8     scanf("%d",&vac[i]);
9     for(int i=0;i<n;i++)
10        scanf("%d",&pat[i]);
11     for(int j=0;j<n-1;j++)
12     {
13         min1=j,min2=j;
14         for(int k=j;k<n;k++)
15         {
16             if(vac[k]<vac[min1])
17                 min1=k;
18             if(pat[k]<pat[min2])
19                 min2=k;
20         }
21         temp=vac[min1];
22         vac[min1]=vac[j];
23         vac[j]=temp;
24         temp=pat[min2];
25         pat[min2]=pat[j];
26         pat[j]=temp;
27     }
28     for(int i=0;i<n;i++)
29     {
30         if(vac[i]<pat[i])
31         {
32             flag=0;
33             break;
34         }
35     }
36     if(flag==1)
37         printf("Yes");
38     else
39         printf("No");
40 }
```

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

	Input	Expected	Got
✓	5 123 146 454 542 456 100 328 248 689 280	No	No ✓

Passed all tests! ✓

Question 3  
Correct  
Marked out of 1.00  
Flag question

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

**Input format**

- First line:  $n$  denoting the number of array elements
- Second line:  $n$  space separated integers  $a_1, a_2, \dots, a_n$ .

**Output format**

Output the required number of pairs.

**Constraints**

$1 \leq n \leq 10^6$   
 $1 \leq a_i \leq 10^9$

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

**SAMPLE INPUT**

5  
1 3 1 4 3

**SAMPLE OUTPUT**

2

**Explanation**

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

**Answer:** (penalty regime: 0 %)

```

1 #include<stdio.h>
2 int main()
3 {
4     int n,count=0;
5     scanf("%d",&n);
6     int arr[n];
7     for(int i=0;i<n;i++)
8         scanf("%d",&arr[i]);

```

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

```
9   for(int i=0;i<n-1;i++)
10  {
11      for(int j=i+1;j<n;j++)
12      {
13          if((arr[i]^arr[j])==0)
14              count++;
15      }
16  }
17  printf("%d",count);
18 }
```

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

Passed all tests! ✓

Question 4  
Correct  
Marked out of 1.00  
[Flag question](#)

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}

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

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:**

$1 \leq m \leq 106$   
 $0 \leq A[i] \leq 106$

NOTE: The indexing of the array starts with 0.

**SAMPLE INPUT**

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

5  
4 5 3 7 1

**SAMPLE OUTPUT**

4 2 0 1 3

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int n;
5     scanf("%d",&n);
6     int arr[n];
7     for(int i=0;i<n;i++)
8         scanf("%d",&arr[i]);
9     int max=arr[0];
10    for(int i=1;i<n;i++)
11    {
12        if(arr[i]>max)
13            max=arr[i];
14    }
15    max++;
16    int min=0;
17    for(int a=0;a<n;a++)
18    {
19        for(int b=0;b<n;b++)
20        {
21            if(arr[b]<arr[min])
22                min=b;
23        }
24        printf("%d ",min);
25        if(a%4==3)
26            printf("\n");
27    }
```

Coding: Attempt review | REC-CIS - Google Chrome

Not secure rajalakshmicolleges.org/moodle/mod/quiz/review.php?attempt=134922&cmid=187

REC-CIS

```
9     int max=arr[0];
10    for(int i=1;i<n;i++)
11    {
12        if(arr[i]>max)
13            max=arr[i];
14    }
15    max++;
16    int min=0;
17    for(int a=0;a<n;a++)
18    {
19        for(int b=0;b<n;b++)
20        {
21            if(arr[b]<arr[min])
22                min=b;
23        }
24        printf("%d ",min);
25        arr[min]=max;
26    }
27 }
```

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

Passed all tests! ✓

Finish review