Week-08-Sorting Algorithms-Bubble and Selection

Week-08-01-Practice Session-Coding

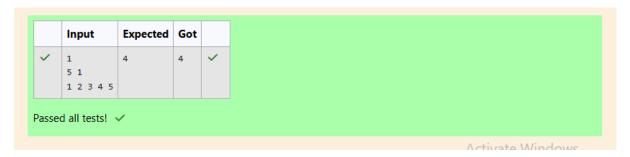
Question 1 Correct Marked out of 1.00 ₱ Flag question

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

Source Code

```
#include<stdio.h>
int main()
           int t;
scanf("%d",&t);
 5
           while(t--)
                 int n,m,d,temp;
scanf("%d %d",&n,&m);
                 d=n-m;
int a[n];
10
11
12
13
                 for(int i=0;i<n;i++)</pre>
                      scanf("%d",&a[i]);
14
15
                 for(int i=0;i<n;i++)
16
17
                      for(int j=0;j<n-i-1;j++)</pre>
18
19
20
                           if(a[j]>a[j+1])
21
22
                                 temp=a[j];
                                a[j]=a[j+1];
a[j+1]=temp;
23
24
25
26
27
28
29
                 int maxsum=0,minsum=0;
for(int i=0;i<d;i++)</pre>
30
31
                      minsum+=a[i];
32
33
34
35
                 for(int j=n-d;j<n;j++)</pre>
36
37
38
                     maxsum+=a[j];
                 int diff;
39
40
                diff=maxsum-minsum;
printf("%d\n",diff);
41
                                                                                                                                                    Activate Windows
                                                                                                                                                    Go to Settings to activate Windo
```



Question $\bf 2$ 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.

Source Code

```
Answer: (penalty regime: 0 %)
        int main()
             int n,min1,min2,temp,flag=1;
             scanf("%d",&n);
int vac[n],pat[n];
                 scanf("%d",&vac[i]);
   10
   11
             for(int i=0;i<n;i++)
   12
   13
                 scanf("%d",&pat[i]);
   14
  15
16
             for(int j=0;j<n-1;j++)
  17
18
                 min1=j,min2=j;
                 for(int k=j;k<n;k++)
   19
                      if(vac[k]<vac[min1])
   21
   22
                          if(pat[k]<pat[min2])
min2=k;</pre>
   23
24
  25
26
  27
28
                 temp=vac[min1];
                 vac[min1]=vac[j];
  29
30
31
                 vac[j]=temp;
temp=pat[min2];
                 pat[min2]=pat[j];
pat[j]=temp;
   33
   34
35
36
             for(int i=0;i<n;i++)
                 if(vac[i]<pat[i])</pre>
   37
  38
  40
41
   42
            if(flag==1)
printf("Yes");
   43
  44
45
            else
printf("No");
                                                                                                                                                       Activate Windows
  46
47
                                                                                                                                                       Go to Settings to activate Windows
```

```
Question \bf 3
                         You are given an array of n integer numbers a_1, a_2, \ldots, a_n. Calculate the number of pair of indices (i, j) such that 1 \le i
                         < j \le n and a_i \times a_j = 0.
Marked out of
1.00

₱ Flag question

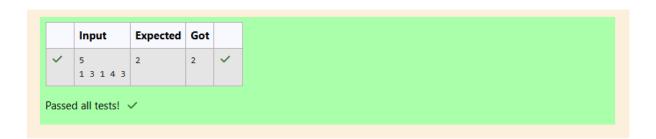
                         Input format
                        - First line: n denoting the number of array elements
                        - Second line: n space separated integers a<sub>1</sub>, a<sub>2</sub>, ..., a<sub>n</sub>.
```

Output format

Output the required number of pairs.

Source Code

```
Answer: (penalty regime: 0 %)
    1 #include<stdio.h>
       int main()
   3 √ {
    4
            int n,count=0;
    5
           scanf("%d",&n);
    6
           int a[n];
           for(int i=0;i<n;i++)</pre>
    7
    8
                scanf("%d",&a[i]);
    9
   10
   11
            for(int i=0;i<n-1;i++)
   12 v
   13
                for(int j=i+1;j<n;j++)</pre>
  14 v
   15
                    if((a[i]^a[j])==0)
   16
   17
                        count++;
   18
   19
   20
            printf("%d",count);
   21
            return 0;
   22
   23
```



Question ${f 4}$ Correct Marked out of 1.00

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

Sample Code

```
Answer: (penalty regime: 0 %)
       #include<stdio.h>
        int main()
    3 ,
       {
            int n;
    4
    5
            scanf("%d",&n);
            int a[n];
    6
            for(int i=0;i<n;i++)</pre>
    8 ,
    9
                scanf("%d",&a[i]);
   10
   11
            int max=a[0];
   12
            for(int i=1;i<n;i++)</pre>
   13
  14
                if(a[i]>max)
  15
                max=a[i];
   16
  17
            max++;
  18
            int min=0;
            for(int i=0;i<n;i++)</pre>
  19
   20
  21 1
                for(int j=0;j<n;j++){</pre>
   22
                    if(a[j]<a[min])</pre>
   23
                    min=j;
  24
   25
                printf("%d ",min);
  26
                a[min]=max;
                                                                                       Activate Windows
   27
                                                                                       Go to Settings to activate Windo
   28
            return 0;
   29 }
```

| | Input | Expected | Got | |
|---------------------|----------------|-----------|-----------|---|
| ~ | 5 4 5 3 7 1 | 4 2 0 1 3 | 4 2 0 1 3 | ~ |
| Passed all tests! 🗸 | | | | |