

WEEK 09

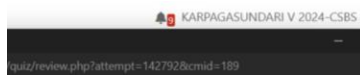
1. You are given a two-dimensional 3*3 array starting from A [0][0]. You should add the alternate elements of the array and print its sum. It should print two different numbers the first being sum of A 0 0, A 0 2, A 1 1, A 2 0, A 2 2 and A 0 1, A 1 0, A 1 2, A 2 1.

Input Format: The first and only line contains the value of array separated by single space.

Output Format: First line should print sum of A 0 0, A 0 2, A 1 1, A 2 0, A 2 2

Second line should print sum of A 0 1, A 1 0, A 1 2, A 2 1

Program:



```
1 #include<stdio.h>
2 int main()
3 {
4     int arr[3][3];
5     for(int i=0;i<3;i++)
6     {
7         for(int j=0;j<3;j++)
8         {
9             scanf("%d",&arr[i][j]);
10        }
11    }
12    int odd=0,even=0;
13    for(int i=0;i<3;i++)
14    {
15        for(int j=0;j<3;j++)
16        {
17            if((i+j)%2!=0)
18            {
19                odd+=arr[i][j];
20            }
21            else
22            {
23                even+=arr[i][j];
24            }
25        }
26    }
27    printf("%d\n%d",even,odd);
28 }
```

Output:

	Input	Expected	Got	
✓	1 2 3 4 5 6 7 8 9	25 20	25 20	✓
✓	21 422 423 443 586 645 657 846 904	2591 2356	2591 2356	✓
Passed all tests! ✓				

2. Microsoft has come to hire interns from your college. N students got shortlisted out of which few were males and a few females. All the students have been assigned talent levels. Smaller the talent level, lesser is your chance to be selected. Microsoft wants to create the result list where it wants the candidates sorted according to their talent levels, but there is a catch. This time Microsoft wants to hire female candidates first and then male candidates. The task is to create a list where first all-female candidates are sorted in a descending order and then male candidates are sorted in a descending order.

Input Format

The first line contains an integer N denoting the number of students. Next, N lines contain two space-separated integers, a_i and b_i . The first integer, a_i will be either 1 (for a male candidate) or 0 (for female candidate). The second integer, b_i will be the candidate's talent level.

Output Format

Output space-separated integers, which first contains the talent levels of all female candidates sorted in descending order and then the talent levels of male candidates in descending order.

Program:

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

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```
32        if(a[i].gen==1)
33            printf("%d ",a[i].tal);
34    }
35
36
37 }
```

Output:

input	expected	Got	
✓ 5 0 3 1 6 0 2 0 7 1 15	7 3 2 15 6	7 3 2 15 6	✓
✓ 6 0 1 0 26 0 39 0 37 0 7 0 13	39 37 26 13 7 1	39 37 26 13 7 1	✓
✓ 12 1 12 1 14 1 18 1 1 1 2 1 3 1 5 1 8 1 9 1 10 0 29 0 31	31 29 18 14 12 10 9 8 5 3 2 1	31 29 18 14 12 10 9 8 5 3 2 1	✓
✓ 12 0 12 1 12 0 12 1 12 0 12 ...	12 12 12 12 12 12 12 12 12 12 12 12	12 12 12 12 12 12 12 12 12 12 12 12	✓

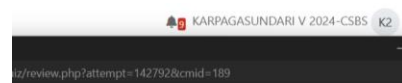
3. To decide the total compensation, he has to calculate the total amount of money to return back to farmers with the same cost they had purchased from him. Suppose, Shyam Lal has a total land area of 1000 x 1000 equal square blocks where each block is equivalent to a unit square area which can be represented on the co-ordinate axis. Now find the total amount of money, he has to return to the farmers. Help Shyam Lal to accomplish this task.

Input Format: The first line of the input contains an integer N, denoting the total and pieces he had distributed. Next N line contains the 5 space separated integers (X1, Y1), (X2, Y2) to represent a rectangular piece of land, and cost per unit area C.

(X1, Y1) and (X2, Y2) are the locations of first and last square block on the diagonal of the rectangular region.

Output Format: Print the total amount he has to return to farmers to solve the conflict.

Program:



```
1 #include<stdio.h>
2 int main()
3 {
4     int i,j,n,x1,x2,y1,y2,t=0;
5     long long total=0;
6     int arr[1001][1001]={0};
7     scanf("%d",&n);
8     while(n-->0)
9     {
10        scanf("%d %d %d %d %d",&x1,&y1,&x2,&y2,&t);
11        for(i=x1;i<=x2;i++)
12        {
13            for(j=y1;j<=y2;j++)
14            {
15                if(arr[i][j]==0)
16                    arr[i][j]=t;
17                else if(arr[i][j]>0)
18                    arr[i][j]=(-1)*(arr[i][j]+t);
19                else if(arr[i][j]<0)
20                    arr[i][j]=-t;
21            }
22        }
23        for(i=1;i<1001;i++)
24        {
25            for(j=1;j<1001;j++)
26            {
27                if(arr[i][j]<0)
28                    total+=arr[i][j];
29            }
30        }
31        printf("%lld\n",(-1)*total);
32    }
33 }
```

```
19     else if(arr[i][j]<0)
20         arr[i][j]=-t;
21     }
22 }
23 }
24 for(i=1;i<1001;i++)
25 {
26     for(j=1;j<1001;j++)
27     {
28         if(arr[i][j]<0)
29             total+=arr[i][j];
30     }
31 }
32 printf("%lld\n",(-1)*total);
33 return 0;
34 }
35 }
```

Output:

Input	Expected	Got	
3 1 4 6 1 4 3 6 2 2 2 5 4 3	35	35	✓
1 48 12 49 27 8	0	0	✓
3 88 34 99 76 44 82 65 94 100 81 58 16 65 66 7	10500	10500	✓

Passed all tests! ✓

