5-G-Product of Array elements-Minimum

Aim:

Given two arrays array\_One[] and array\_Two[] of same size N. We need to first rearrange the arrays such that the sum of the product of pairs( 1 element from each) is minimum. That is SUM (A[i] \* B[i]) for all i is minimum.

**For example:**

| **Input** | **Result** |
| --- | --- |
| 3  1  2  3  4  5  6 | 28 |

Answer:(penalty regime: 0 %)

Algorithm:

 Read the integer n and arrays a1 and a2 of size n.

 Sort a1 in ascending order and a2 in descending order using nested loops for swapping elements.

 Calculate the sum s by multiplying corresponding elements from a1 and a2 and accumulating the result.

 Print the computed sum s.

Code:

#include <stdio.h>

int main()

{

int n,temp,s=0,t;

scanf("%d",&n);

int a1[n],a2[n];

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

{

scanf("%d",&a1[i]);

}

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

{

scanf("%d",&a2[j]);

}

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

{

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

{

if(a1[i]>a1[j] && j!=i)

{

temp=a1[i];

a1[i]=a1[j];

a1[j]=temp;

}

}

}

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

{

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

{

if(a2[i]<a2[j] && j!=i)

{

t=a2[i];

a2[i]=a2[j];

a2[j]=t;

}

}

}

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

{

s+=a1[i]\*a2[i];

}

printf("%d",s);

}

Output:

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 3  1  2  3  4  5  6 | 28 | 28 |  |
|  | 4  7  5  1  2  1  3  4  1 | 22 | 22 |  |
|  | 5  20  10  30  10  40  8  9  4  3  10 | 590 | 590 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

Result:

The expected output was obtained