GREEDY ALGORITHMS

PROBLEM 5:

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.

CODE:

```
#include<stdio.h>

#include<stdlib.h>

int compare_asc(const void *a, const void *b){

   return (*(int*)a - *(int*)b);

}

int main(){

   int n;

   scanf("%d",&n);

   int array_One[n], array_Two[n];

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

   {

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



   }
```

```
    for(int i=0;i<n;i++)
    {
        scanf("%d", &array_Two[i]);


    }
    qsort(array_One, n, sizeof(int), compare_asc);
    qsort(array_Two, n, sizeof(int), compare_asc);


    int sum=0;
    for(int i =0;i<n; i++){
        sum+= array_One[i] * array_Two[n- i- 1];
    }
    printf("%d\n",sum);
    return 0;
}
```

INPUT AND 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	✔