GREEDY ALGORITHMS

PROBLEM 4:

4-G ARRAY SUM MAX PROBLEM

AIM:

Given an array of N integer, we have to maximize the sum of arr[i] * i, where i is the index of the element (i = 0, 1, 2, ..., N).Write an algorithm based on Greedy technique with a Complexity O(nlogn).

CODE:

```
#include<stdio.h>
#include<stdlib.h>
int compare(const void *a, const void *b){
   return (*(int*)a - *(int*)b);
}
int main(){
   int n;
   scanf("%d",&n);
   int arr[n];
   for (int i=0; i < n;i++ )
   {
      scanf("%d",&arr[i]);
   }
   qsort(arr, n, sizeof(int), compare);
   int sum = 0 ;
   for (int i=0; i < n;i++ )
```

```
    {
        sum += arr[i] * i;
    }
    printf("%d\n",sum);
    return 0;
}
```

INPUT AND OUTPUT:

	Input	Expected	Got	
✔	5 2 5 3 4 0	40	40	✔
✔	10 2 2 2 4 4 3 3 5 5 5	191	191	✔
✔	2 45 3	45	45	✔