

IMPLEMENTATION OF BUBBLE SORT ALONG WITH TIME AND SPACE COMPLEXITY

PROGRAM : BUBBLE SORT

```
#include<stdio.h>
void main()
{
int limit,i,j,temp,count=0;
count++;
printf("enter the limit\n");
scanf("%d",&limit);
count++;
int arr[limit];
printf("enter the elements\n");
for(i=0;i<limit;i++)
{
count++;
scanf("%d",&arr[i]);
count++;
}count++;
for(i=0;i<limit;i++){
count++;
for(j=i+1;j<limit;j++){
count++;
if(arr[i]>arr[j]){
count++;
temp=arr[i];
arr[i]=arr[j];
arr[j]=temp;
count+=3;
}count++;
}count++;
}count++;
printf("sorted array is ");
for(i=0;i<limit;i++){
count++;
printf("%d\t",arr[i]);
count++;
}count++;
printf("\n");
count+=2;
printf("Time complexity is %d\n Space complexity is %d",count,(20+(4*limit)));
}
```

OUTPUT

```
csea1@sjcet-H81M-DS2:~/anush$ gcc bubble.c
csea1@sjcet-H81M-DS2:~/anush$ ./a.out
enter the limit
4
enter the elements
3 1 2 5
sorted array is 1      2      3      5
Time complexity is 51
Space complexity is 36csea1@sjcet-H81M-DS2:~/anush$
```