IMPLEMENTATION OF SELECTION SORT ALONG WITH TIME AND SPACE COMPLEXITY

PROGRAM: SELECTION SORT

```
#include<stdio.h>
void main()
{
int limit,i,j,temp,count=0,min_index;
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++;
min_index=i;
count++;
for(j=i+1;j<limit;j++){
count++;
if(arr[j]<arr[min_index]){
count++;
min_index=j;
count++;
}count++;
}count++;
temp=arr[min_index];
arr[min_index]=arr[i];
arr[i]=temp;
count+=3;
}count++;
printf("Sorted array is ");
for(i=0;i<limit;i++)
{
count++;
printf("%d\t",arr[i]);
count++;
}count++;
count+=2;
printf("\nTime Complexity %d \n Space Complexity %d ",count,(24+(4*limit)));
}
```

OUTPUT

```
csea1@sjcet-H81M-DS2:~/anush$ gcc selection.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 63
 Space Complexity 40 csea1@sjcet-H81M-DS2:~/anush$ gcc selection.c
```