

```
1  #include<stdio.h>
2  int absoluteValue(int);
3
4  int main()
5  (
6      int queue[25],n,headposition,i,j,k,seek=0, maxrange,
7      difference,temp,queue1[20],queue2[20],temp1=0,temp2=0;
8      float averageSeekTime;
9
10
11     printf("Enter the maximum range of Disk: ");
12     scanf("%d",&maxrange);
13
14
15     printf("Enter the number of queue requests: ");
16     scanf("%d",&n);
17
18
19     printf("Enter the initial head position: ");
20     scanf("%d",&headposition);
21
22
23     printf("Enter the disk positions to be read(queue): ");
24     for(i=1;i<=n;i++)
25     {
26         scanf("%d",&temp);
27
28         if(temp>headposition)
29         {
30             queue1[temp1]=temp;
31             temp1++;
32         }
33         else
34         {
35             queue2[temp2]=temp;
```

```
34 {
35     queue2[temp2]=temp;
36     temp2++;
37 }
38 }
39
40 for(i=0;i<temp1-1;i++)
41 {
42     for(j=i+1;j<temp1;j++)
43     {
44         if(queue1[i]>queue1[j])
45         {
46             temp=queue1[i];
47             queue1[i]=queue1[j];
48             queue1[j]=temp;
49         }
50     }
51 }
52
53
54 for(i=0;i<temp2-1;i++)
55 {
56     for(j=i+1;j<temp2;j++)
57     {
58         if(queue2[i]<queue2[j])
59         {
60             temp=queue2[i];
61             queue2[i]=queue2[j];
62             queue2[j]=temp;
63         }
64     }
65 }
66
67 for(i=1;i<temp1;i++)
```

```
68 | for(i=1,j=0;j<templ;i++,j++)
69 | {
70 |     queue[i]=queue1[j];
71 | }
72 |
73 | queue[i]=maxrange;
74 |
75 |
76 | {
77 |     queue[i]=queue2[j];
78 | }
79 |
80 | queue[i]=0;
81 |
82 |
83 | queue[0]=headposition;
84 |
85 | for(j=0; j<=n; j++)
86 | {
87 |     difference = absoluteValue(queue[j+1]-queue[j]);
88 |
89 |     seek = seek + difference;
90 |
91 |
92 |     printf("Disk head moves from position %d to %d with Seek %d \n", queue[j], queue[j+1], difference);
93 | }
94 |
95 |
96 |
97 | averageSeekTime = seek/((float)n);
98 |
99 |
100 | printf("Total Seek Time= %d\n", seek);
101 | printf("Average Seek Time= %f\n", averageSeekTime);
102 | }
```

```
83     queue[0]=headposition;
84
85     for(j=0; j<=n; j++)
86     {
87         difference = absoluteValue(queue[j+1]-queue[j]);
88
89
90         seek = seek + difference;
91
92
93         printf("Disk head moves from position %d to %d with Seek %d \n", queue[j], queue[j+1], difference);
94     }
95
96
97     averageSeekTime = seek/(float)n;
98
99
100    printf("Total Seek Time= %d\n", seek);
101    printf("Average Seek Time= %f\n", averageSeekTime);
102 }
103
104
105 int absoluteValue(int x)
106 {
107     if(x>0)
108     {
109         return x;
110     }
111     else
112     {
113         return x*-1;
114     }
115 }
116
```

C:\Users\kadi\OneDrive\Documents\scan\_scheduling.exe

```
Enter the maximum range of Disk: 5
Enter the number of queue requests: 5
Enter the initial head position: 23
Enter the disk positions to be read(queue): 34
23
45
56
64
Disk head moves from position 23 to 34 with Seek 11
Disk head moves from position 34 to 45 with Seek 11
Disk head moves from position 45 to 56 with Seek 11
Disk head moves from position 56 to 64 with Seek 8
Disk head moves from position 64 to 0 with Seek 64
Disk head moves from position 0 to 0 with Seek 0
Total Seek Time= 105
Average Seek Time= 21.000000
```

```
-----
Process exited after 18.48 seconds with return value 0
Press any key to continue . . .
```

