```c
1    #include<stdio.h>
2    int main()
3    {
4            int queue[20],n,head,i,j,k,seek=0,max,diff,temp,queue1[20],queue2[20],
5                    temp1=0,temp2=0;
6            float avg;
7            printf("Enter the max range of disk\n");
8            scanf("%d",&max);
9            printf("Enter the initial head position\n");
10           scanf("%d",&head);
11           printf("Enter the size of queue request\n");
12           scanf("%d",&n);
13           printf("Enter the queue of disk positions to be read\n");
14           for(i=1;i<=n;i++)
15           {
16                   scanf("%d",&temp);
17                   if(temp>=head)
18                   {
19                           queue1[temp1]=temp;
20                           temp1++;
21                   }
22                   else
23                   {
24                           queue2[temp2]=temp;
25                           temp2++;
26                   }
27           }
```

```
25                                        temp2++;
26                            }
27      }
28      for(i=0;i<temp1-1;i++)
29      {
30              for(j=i+1;j<temp1;j++)
31              {
32                      if(queue1[i]>queue1[j])
33                      {
34                              temp=queue1[i];
35                              queue1[i]=queue1[j];
36                              queue1[j]=temp;
37                      }
38              }
39      }
40      for(i=0;i<temp2-1;i++)
41      {
42              for(j=i+1;j<temp2;j++)
43              {
44                      if(queue2[i]<queue2[j])
45                      {
46                              temp=queue2[i];
47                              queue2[i]=queue2[j];
48                              queue2[j]=temp;
49              }
50      }
51 }
```

```cpp
44                                        if(queue2[i]<queue2[j])
45                                        {
46                                            temp=queue2[i];
47                                            queue2[i]=queue2[j];
48                                            queue2[j]=temp;
49                                        }
50                                   }
51              }
52              for(i=1,j=0;j<temp1;i++,j++)
53              queue[i]=queue1[j];
54              queue[i]=max;
55              for(i=temp1+2,j=0;j<temp2;i++,j++)
56              queue[i]=queue2[j];
57              queue[i]=0;
58              queue[0]=head;
59              for(j=0;j<=n+1;j++)
60              {
61                      diff=(queue[j+1]-queue[j]);
62                      seek+=diff;
63                      printf("Disk head moves from %d to %d with seek
64              }
65              printf("Total seek time is %d\n",seek);
66              avg=seek/(float)n;
67              printf("Average seek time is %f\n",avg);
68              return 0;
69      }
```

TDM-GCC 4.9.2 64-bit Release

C:\Users\sruthi\OneDrive\Documents\Untitled1.exe

```
Enter the size of queue request
8
Enter the queue of disk positions to be read
90 120 35 122 38 128 65 68
Disk head moves from 55 to 65 with seek
    10
Disk head moves from 65 to 68 with seek
    3
Disk head moves from 68 to 90 with seek
    22
Disk head moves from 90 to 120 with seek
    30
Disk head moves from 120 to 122 with seek
    2
Disk head moves from 122 to 128 with seek
    6
Disk head moves from 128 to 200 with seek
    72
Disk head moves from 200 to 38 with seek
    -162
Disk head moves from 38 to 35 with seek
    -3
Disk head moves from 35 to 0 with seek
    -35
Total seek time is -55
Average seek time is -6.875000

--------------------------------
Process exited after 72.25 seconds with return value 0
Press any key to continue . . .
```

```
66          avg=seek/(float)n;
67          printf("Average seek time is %f\n",avg);
68          return 0;
69    }
```