Disk-scheduling

```
#include<stdio.h>

#include<conio.h>

#include<math.h>

int or[20],head,i,n,head_movement=0,start,end;

void sort();

void fcfs();

void scan();

void look();

void cscan();

void clook();

void main()

{

int choice;

printf("enter the no of requests:\n");

scanf("%d",&n);

printf("enter the order of request:\n");

for(i=0;i<n;i++)

{

scanf("%d",&or[i]);

}

printf("enter the current read/write head position:\n");

scanf("%d",&head);

printf("enter the start and the end of read/write head:\n");

scanf("%d%d",&start,&end);

while(1)

{

   printf("1.FCFS\t2.SSTF\t3.scan\t4.Look\t5.C-scan\t6.C-look\t7.Exit\n");

   printf("enter your choice:\n");

   scanf("%d",&choice);
   switch(choice)
   {
      case 1:fcfs();
      break;
      case 2:sstf();
      break;
      case 3:scan();
      break;
      case 4:look();
      break;
      case 5:cscan();
      break;
      case 6:clook();
      break;
     case 7:exit(0);
     break;
     default:printf("Invalid choice\n");
   }
}
getch();
}
void fcfs()
{
   for(i=0;i<n;i++)
{
   head_movement+=fabs(head-or[i]);
   head=or[i];
}
printf("head movement=%d\n",head_movement);
}
void sstf()
```

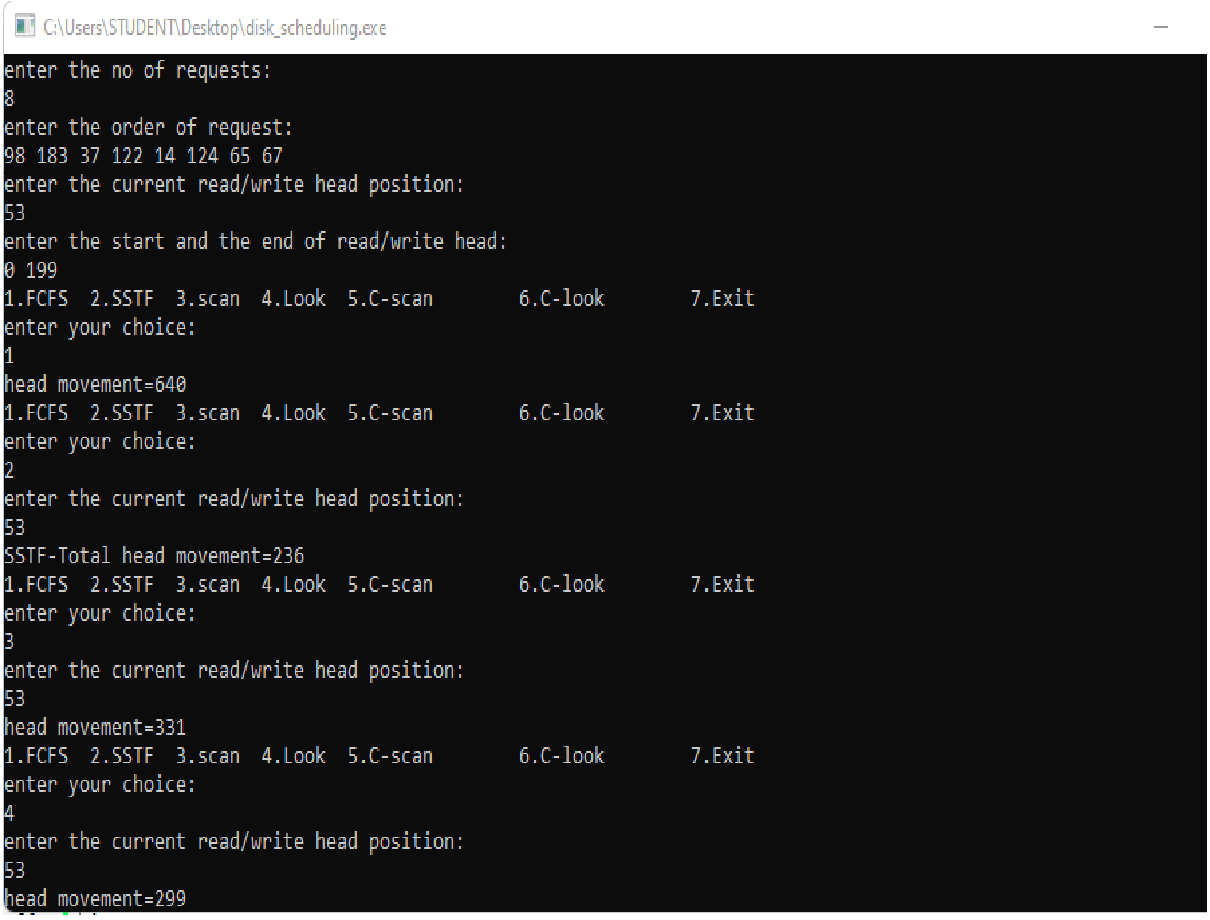
```
{
int c=0,i,j,headm=0,k,t,temp,b[20];
for(i=0;i<n;i++)
{
   b[i]=or[i];
}
b[n]=head;
for(i=0;i<n;i++)
{
for(j=0;j<n-i;j++)
{
if(b[j]>b[j+1])
{
temp=b[j];
b[j]=b[j+1];
b[j+1]=temp;
}
}
}
for(i=0;i<n;i++)
{
if(b[i]==head)
break;
else
c++;
}
j=c;
k=c;
t=j;
for(i=0;i<n;i++)
{
```

```
if((b[k+1]-b[t])<(b[t]-b[j-1]) && j>0)
{
headm+=(b[k+1]-b[t]);
k++;
t=k;
}
else if(j==0)
{
headm+=(b[k+1]-b[t]);
k++;
t=k;
}
else
{
headm+=(b[t]-b[j-1]);
j--;
t=j;
}
}
printf("SSTF-Total head movement=%d\n",headm);
}
void scan()
{
printf("enter the current read/write head position:\n");
scanf("%d",&head);
sort();
int j;
for(i=0;i<n;i++)
{
if(head<or[i])
break;
```

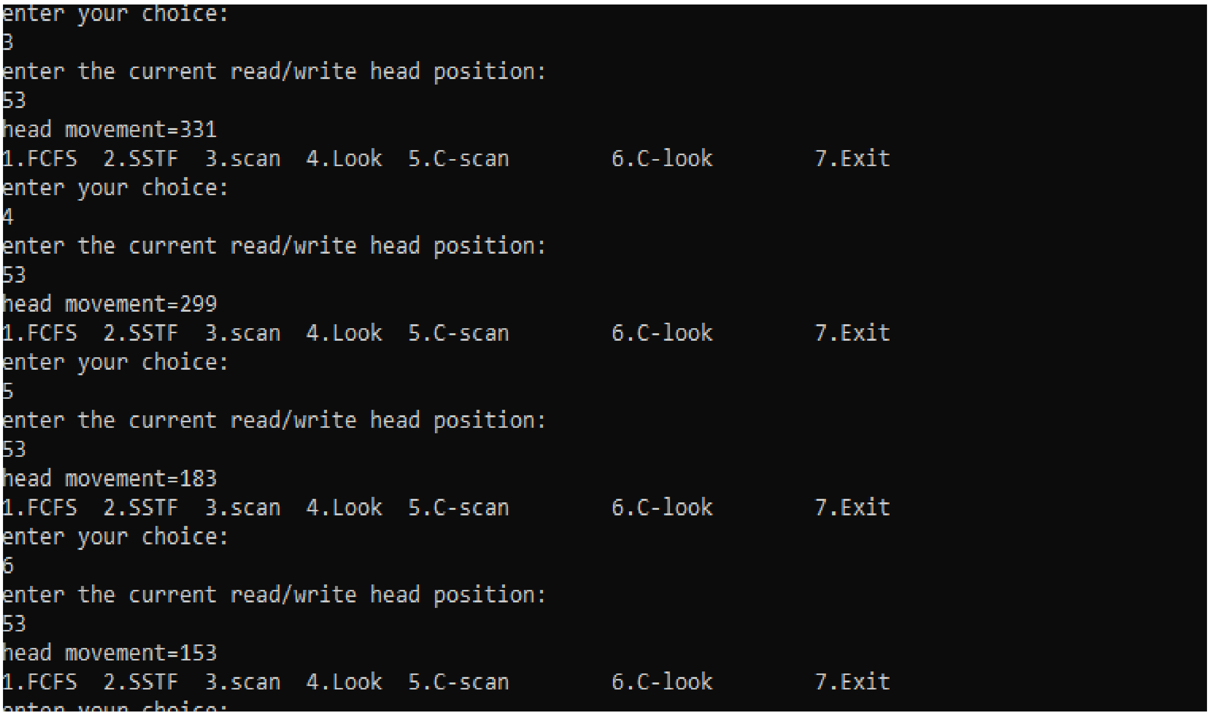
```
}
j=i;
head_movement=fabs(head-end)+fabs(end-or[j-1]);
head=or[j-1];
for(i=j-1;i>=0;i--)
{
head_movement+=fabs(head-or[i]);
head=or[i];
}
printf("head movement=%d\n",head_movement);
}
void look()
{
printf("enter the current read/write head position:\n");
scanf("%d",&head);
sort();
int j;
for(i=0;i<n;i++)
{
if(head<or[i])
break;
}
j=i;
head_movement=fabs(head-or[n-1])+fabs(or[n-1]-or[j-1]);
head=or[j-1];
for(i=j-1;i>=0;i--)
{
head_movement+=fabs(head-or[i]);
head=or[i];
}
printf("head movement=%d\n",head_movement);
```

```
}
void clook()
{
printf("enter the current read/write head position:\n");
scanf("%d",&head);
sort();
int j;
for(i=0;i<n;i++)
{
if(head<or[i])
break;
}
j=i;
head_movement=fabs(head-or[n-1]);
for(i=0;i<j-1;i++)
{
head=or[i];
head_movement+=fabs(head-or[i+1]);
}
printf("head movement=%d\n",head_movement);
}
void cscan()
{
printf("enter the current read/write head position:\n");
scanf("%d",&head);
sort();
int j;
for(i=0;i<n;i++)
{
if(head<or[i])
break;
}
j=i;
head_movement=fabs(head-end)+fabs(start-or[j-1]);
printf("head movement=%d\n",head_movement);
}
void sort()
{
int temp,j;
for(i=0;i<n-1;i++)
  {
      for(j=0;j<n-i-1;j++)
      {
          if(or[j]>or[j+1])
          {
              temp=or[j];
              or[j]=or[j+1];
              or[j+1]=temp;
          }
      }
  }
}
```

OUTPUT:



```
enter the no of requests:
8
enter the order of request:
98 183 37 122 14 124 65 67
enter the current read/write head position:
53
enter the start and the end of read/write head:
0 199
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
1
head movement=640
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
2
enter the current read/write head position:
53
SSTF-Total head movement=236
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
3
enter the current read/write head position:
53
head movement=331
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
4
enter the current read/write head position:
53
head movement=299
```



```
enter your choice:
3
enter the current read/write head position:
53
head movement=331
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
4
enter the current read/write head position:
53
head movement=299
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
5
enter the current read/write head position:
53
head movement=183
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
6
enter the current read/write head position:
53
head movement=153
1.FCFS  2.SSTF  3.scan  4.Look  5.C-scan        6.C-look        7.Exit
enter your choice:
```