**//Assignment No 8(c)**

/\* Implement the C program for Disk Scheduling Algorithms: SSTF, SCAN, C-Look

considering the initial head position moving away from the spindle. \*/

#include<stdio.h>

int request[50];

int SIZE;

int pre;

int head;

int uptrack;

int downtrack;

struct max{

int up;

int down;

}kate[50];

int dist(int a,int b)

{

if(a>b)

return a-b;

return b-a;

}

void sort(int n)

{

int i,j;

for (i = 0; i < n-1; i++)

{

for (j = 0; j < n-i-1; j++)

{

if (request[j] > request[j+1])

{

int temp=request[j];

request[j]=request[j+1];

request[j+1]=temp;

}

}

}

j=0;

i=0;

while(request[i]!=head)

{

kate[j].down=request[i];

j++;

i++;

}

downtrack=j;

i++;

j=0;

while(i<n)

{

kate[j].up=request[i];

j++;

i++;

}

uptrack=j;

}

void look(int n)

{

int i;

int seekcount=0;

sort(n);

printf("SEEK SEQUENCE = ");

if(pre<head){

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

{

printf(" %d",head);

seekcount=seekcount+dist(head,kate[i].up);

head=kate[i].up;

}

for(i=downtrack-1;i>=0;i--)

{

printf(" %d",head);

seekcount=seekcount+dist(head,kate[i].down);

head=kate[i].down;

}

}

else

{

for(i=downtrack-1;i>=0;i--)

{

printf(" %d",head);

seekcount=seekcount+dist(head,kate[i].down);

head=kate[i].down;

}

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

{

printf(" %d",head);

seekcount=seekcount+dist(head,kate[i].up);

head=kate[i].up;

}

}

printf(" %d\nTOTAL DISTANCE :%d",head,seekcount);

}

int main()

{

int n,i;

printf("ENTER THE DISK SIZE :\n");

scanf("%d",&SIZE);

printf("ENTER THE NO OF REQUEST SEQUENCE :\n");

scanf("%d",&n);

printf("ENTER THE REQUEST SEQUENCE :\n");

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

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

printf("ENTER THE CURRENT HEAD :\n");

scanf("%d",&head);

request[n]=head;

printf("ENTER THE PRE REQUEST :\n");

scanf("%d",&pre);

look(n+1);

}

//**OUTPUT**

root@DESKTOP-9GPJRFJ:/mnt/d/os# g++ Ass8.cpp

root@DESKTOP-9GPJRFJ:/mnt/d/os# ./a.out

ENTER THE DISK SIZE :

8

ENTER THE NO OF REQUEST SEQUENCE :

7

ENTER THE REQUEST SEQUENCE :

45

90

67

123

213

59

60

ENTER THE CURRENT HEAD :

50

ENTER THE PRE REQUEST :

45

SEEK SEQUENCE = 50 59 60 67 90 123 213 45