25.Develop a C program to simulate C-SCAN disk scheduling algorithm.

**PROGRAM:**

#include<stdio.h>

#include<stdlib.h>

int main()

{

int RQ[100],i,j,n,TotalHeadMoment=0,initial,size,move;

printf("Enter the number of Requests\n");

scanf("%d",&n);

printf("Enter the Requests sequence\n");

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

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

printf("Enter initial head position\n");

scanf("%d",&initial);

printf("Enter total disk size\n");

scanf("%d",&size);

printf("Enter the head movement direction for high 1 and for low 0\n");

scanf("%d",&move);

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

{

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

{

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

{

int temp;

temp=RQ[j];

RQ[j]=RQ[j+1];

RQ[j+1]=temp;

}

}

}

int index;

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

{

if(initial<RQ[i])

{

index=i;

break;

}

}

if(move==1)

{

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

{

TotalHeadMoment=TotalHeadMoment+abs(RQ[i]-initial);

initial=RQ[i];

}

TotalHeadMoment=TotalHeadMoment+abs(size-RQ[i-1]-1);

TotalHeadMoment=TotalHeadMoment+abs(size-1-0);

initial=0;

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

{

TotalHeadMoment=TotalHeadMoment+abs(RQ[i]-initial);

initial=RQ[i];

}

}

else

{

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

{

TotalHeadMoment=TotalHeadMoment+abs(RQ[i]-initial);

initial=RQ[i];

}

TotalHeadMoment=TotalHeadMoment+abs(RQ[i+1]-0);

TotalHeadMoment=TotalHeadMoment+abs(size-1-0);

initial =size-1;

for(i=n-1;i>=index;i--)

{

TotalHeadMoment=TotalHeadMoment+abs(RQ[i]-initial);

initial=RQ[i];

}

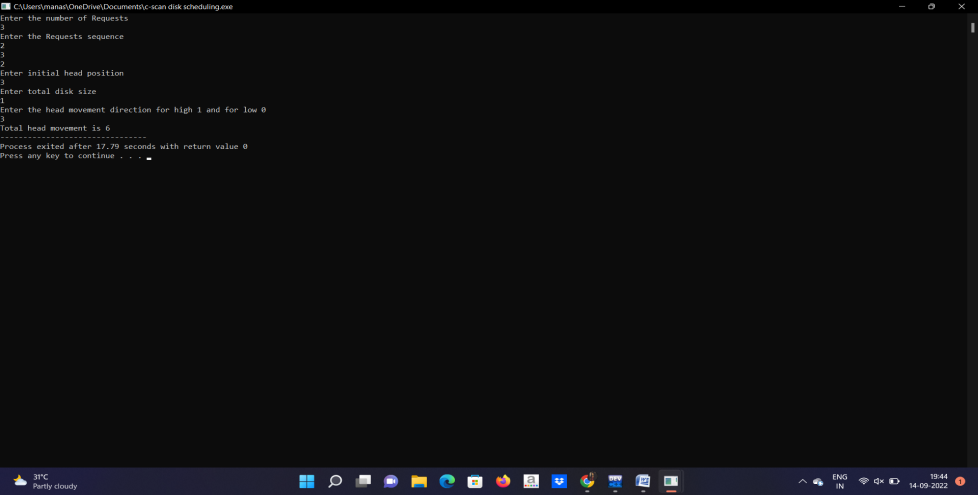
}

printf("Total head movement is %d",TotalHeadMoment);

return 0;

}

**OUTPUT:**

**l**