10.Develop a C program to simulate SCAN disk scheduling algorithm.

#include <stdio.h>

#include <stdlib.h>

int main() {

int queue[20],head,n,i,j,seekTime=0,direction,maxTrack;

printf("Enter the number of disk requests: ");

scanf("%d", &n);

printf("Enter the disk request queue: ");

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

{

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

}

printf("Enter the initial head position: ");

scanf("%d",&head);

printf("Enter the maximum track number: ");

scanf("%d",&maxTrack);

printf("Enter the direction (0 for left, 1 for right): ");

scanf("%d",&direction);

printf("\n");

int temp;

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

for (j=i+1;j<n;j++) {

if(queue[i] > queue[j]) {

temp = queue[i];

queue[i] = queue[j];

queue[j] = temp;

}

}

}

int currentTrack = head;

printf("Seek Sequence: ");

if(direction == 0) {

for(i = head;i>=0;i--) {

printf("%d ",i);

seekTime += abs(currentTrack - i);

currentTrack = i;

}

printf("0");

seekTime += currentTrack;

for(i = 1; i<= maxTrack; i++) {

printf("%d",i);

seekTime += abs(currentTrack-i);

currentTrack = i;

}

} else {

for(i=head; i<=maxTrack; i++) {

printf("%d",i);

seekTime += abs(currentTrack - i);

currentTrack = i;

}

printf("%d", maxTrack);

seekTime += abs(currentTrack - maxTrack);

for(i = maxTrack-1;i>= 0;i--) {

printf("%d",i);

seekTime += abs(currentTrack - i);

currentTrack=i;

}

}

printf("\n\nTotal Seek Time: %d\n",seekTime);

exit(0);

}