#include<stdio.h>

int absoluteValue(int);

void main()

{

int queue[25],n,headposition,i,j,k,seek=0, maxrange,

difference,temp,queue1[20],queue2[20],temp1=0,temp2=0;

float averageSeekTime;

printf("Enter the maximum range of Disk: ");

scanf("%d",&maxrange);

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

scanf("%d",&n);

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

scanf("%d",&headposition);

printf("Enter the disk positions to be read(queue): ");

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

{

scanf("%d",&temp);

if(temp>headposition)

{

queue1[temp1]=temp;

temp1++; //incrementing temp1

}

else

{

queue2[temp2]=temp; //temp2 is the index variable of queue2[]

temp2++;

}

}

for(i=0;i<temp1-1;i++)

{

for(j=i+1;j<temp1;j++)

{

if(queue1[i]>queue1[j])

{

temp=queue1[i];

queue1[i]=queue1[j];

queue1[j]=temp;

}

}

}

for(i=0;i<temp2-1;i++)

{

for(j=i+1;j<temp2;j++)

{

if(queue2[i]<queue2[j])

{

temp=queue2[i];

queue2[i]=queue2[j];

queue2[j]=temp;

}

}

}

for(i=1,j=0;j<temp1;i++,j++)

{

queue[i]=queue1[j];

}

queue[i]=maxrange;

for(i=temp1+2,j=0;j<temp2;i++,j++)

{

queue[i]=queue2[j];

}

queue[i]=0;

queue[0]=headposition;

for(j=0; j<=n; j++) //Loop starts from headposition. (ie. 0th index of queue)

{

difference = absoluteValue(queue[j+1]-queue[j]);

seek = seek + difference;

printf("Disk head moves from position %d to %d with Seek %d \n",

queue[j], queue[j+1], difference);

}

averageSeekTime = seek/(float)n;

printf("Total Seek Time= %d\n", seek);

printf("Average Seek Time= %f\n", averageSeekTime);

}

int absoluteValue(int x)

{

if(x>0)

{

return x;

}

else

{

return x\*-1;

}

}

output:

