#include<stdio.h>

#include<stdlib.h>

int main()

{

int RQ[100],i,j,n,TotalHeadMovement=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);

// logic for Scan disk scheduling

/\*logic for sort the request array \*/

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 movement is towards high value

if(move==1)

{

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

{

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

initial=RQ[i];

}

// last movement for max size

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

initial = size-1;

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

{

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

initial=RQ[i];

}

}

// if movement is towards low value

else

{

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

{

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

initial=RQ[i];

}

// last movement for min size

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

initial =0;

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

{

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

initial=RQ[i];

}

}

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

return 0;

}

**Output:-**

Enter the number of Request

8

Enter the Requests Sequence

95 180 34 119 11 123 62 64

Enter initial head position

50

Enter total disk size

200

Enter the head movement direction for high 1 and for low 0

1

Total head movement is 337