**Group : B**

**Assignment No. : 8.4**

**Title : Write a program to implement SSTF**

**Roll No. : 2365**

**-------------------------------------------------------------------------------------------**

import java.util.\*;

public class SSTF {

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

int trackseq[]=new int[20];

int sortedseq[]=new int[20],flag[]=new int[20];

int noofcylinders=0;

int curpos=100;

int noofheadpos=0;

int theadmovement,sum=0;

System.out.print("\nEnter no fo cylinders::");

noofcylinders=sc.nextInt();

System.out.print("Enter total no of head positions in work queue::");

noofheadpos=sc.nextInt();

System.out.print("\nEnter the work queue::");

for(int i=0;i<noofheadpos;i++)

{

trackseq[i]=sc.nextInt();

sortedseq[i]=trackseq[i];

}

System.out.print("Enter current head position::");

curpos=sc.nextInt();

sortedseq[noofheadpos]=curpos;

//sorting array

for(int i=0;i<=noofheadpos;i++)

{

for(int j=i+1;j<=noofheadpos;j++)

{

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

{

int t=sortedseq[i];

sortedseq[i]=sortedseq[j];

sortedseq[j]=t;

}

}

}

//finding headposition.

int headid=0;

for(int i=0;i<=noofheadpos;i++)

{

if(sortedseq[i]==curpos)

{

headid=i;

}

}

sum=0;

int difference[]=new int[10];

System.out.println("SSTF ALGORITHM");

int curtrack;

for(int j=0;j<=(noofheadpos);j++)

flag[j]=0;

curtrack=curpos;

System.out.println("\nHEAD MOVEMENT");

int mintrack=0;

for(int k=0;k<noofheadpos;k++)

{

for(int i=0;i<noofheadpos;i++)

{

if(trackseq[i]>curtrack)

difference[i]=trackseq[i]-curtrack;

else

difference[i]=curtrack-trackseq[i];

}

int min=999;

for(int j=0;j<noofheadpos;j++)

{

if(difference[j]<min && flag[j]!=1)

{

min=difference[j];

mintrack=j;

}

}

if(trackseq[mintrack]>curtrack)

{

sum=sum+(trackseq[mintrack]-curtrack);

System.out.println(""+trackseq[mintrack]+" - "+curtrack+"="+(trackseq[mintrack]-curtrack));

}

else

{

sum=sum+(curtrack-trackseq[mintrack]);

System.out.println(""+curtrack+" - "+trackseq[mintrack]+"="+(curtrack-trackseq[mintrack]));

}

curtrack=trackseq[mintrack];

flag[mintrack]=1;

}

System.out.println("Total Head movement::"+sum);

}

}

/\*

Enter no fo cylinders::200

Enter total no of head positions in work queue::7

Enter the work queue::125

100

175

51

133

8

140

Enter current head position::125

SSTF ALGORITHM

HEAD MOVEMENT

125 - 125=0

133 - 125=8

140 - 133=7

175 - 140=35

175 - 100=75

100 - 51=49

51 - 8=43

Total Head movement::217

\*/