**EXPERIMENT N0-10**

**Write a program in C to do disk scheduling SCAN and C-SCAN**

**C-SCAN CODE:**

#include<stdio.h>

int main()

{

int queue[20],n,head,i,j,k,seek=0,max,diff,temp,queue1[20],queue2[20],

temp1=0,temp2=0;

float avg;

printf("Enter the max range of disk\n");

scanf("%d",&max);

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

scanf("%d",&head);

printf("Enter the size of queue request\n");

scanf("%d",&n);

printf("Enter the queue of disk positions to be read\n");

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

{

scanf("%d",&temp);

if(temp>=head)

{

queue1[temp1]=temp;

temp1++;

}

else

{

queue2[temp2]=temp;

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]=max;

queue[i+1]=0;

for(i=temp1+3,j=0;j<temp2;i++,j++)

queue[i]=queue2[j];

queue[0]=head;

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

{

diff=abs(queue[j+1]-queue[j]);

seek+=diff;

printf("Disk head moves from %d to %d with seek time: %d\n",queue[j],queue[j+1],diff);

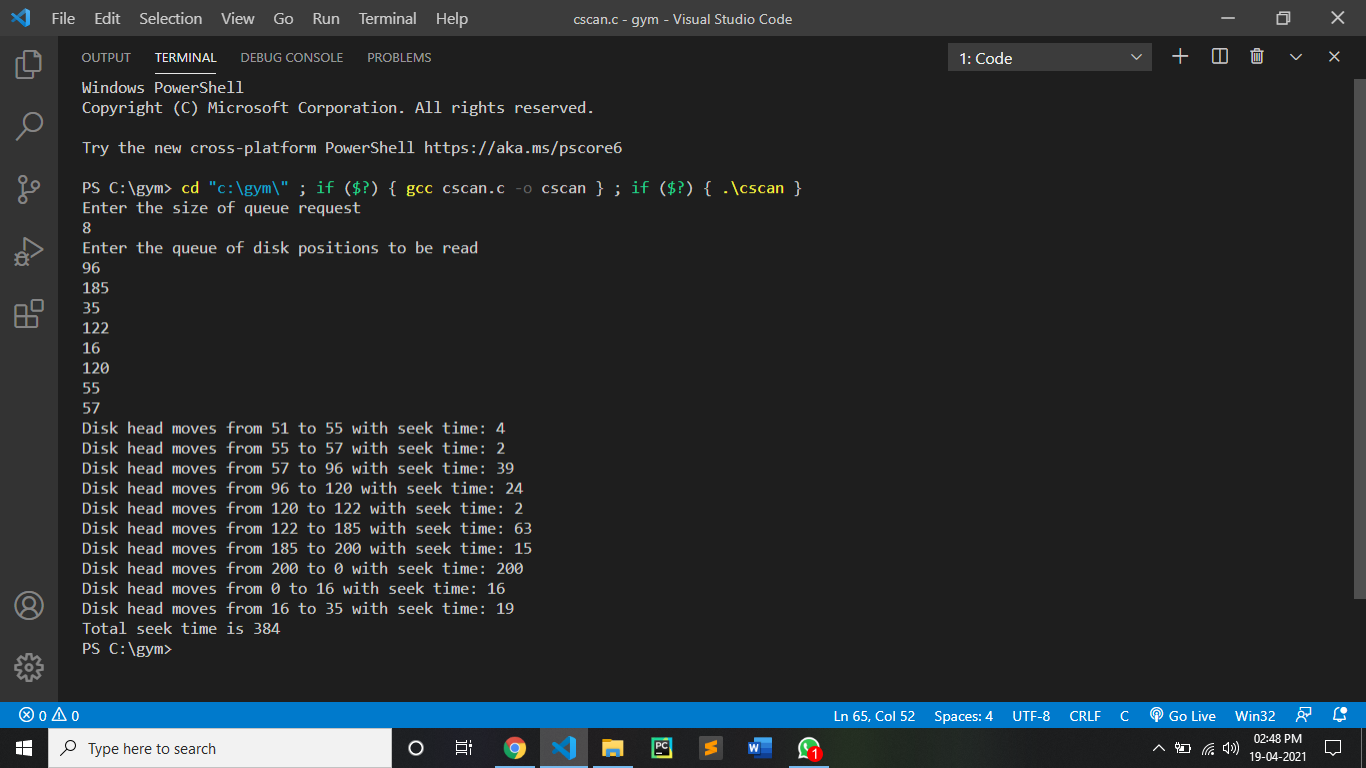
}

printf("Total seek time is %d\n",seek);

return 0;

}

**OUTPUT:**

****

**SCAN CODE:**

#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++;

}

else

{

queue2[temp2]=temp;

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++)

{

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);

}

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

}

int absoluteValue(int x)

{

if(x>0)

{

return x;

}

else

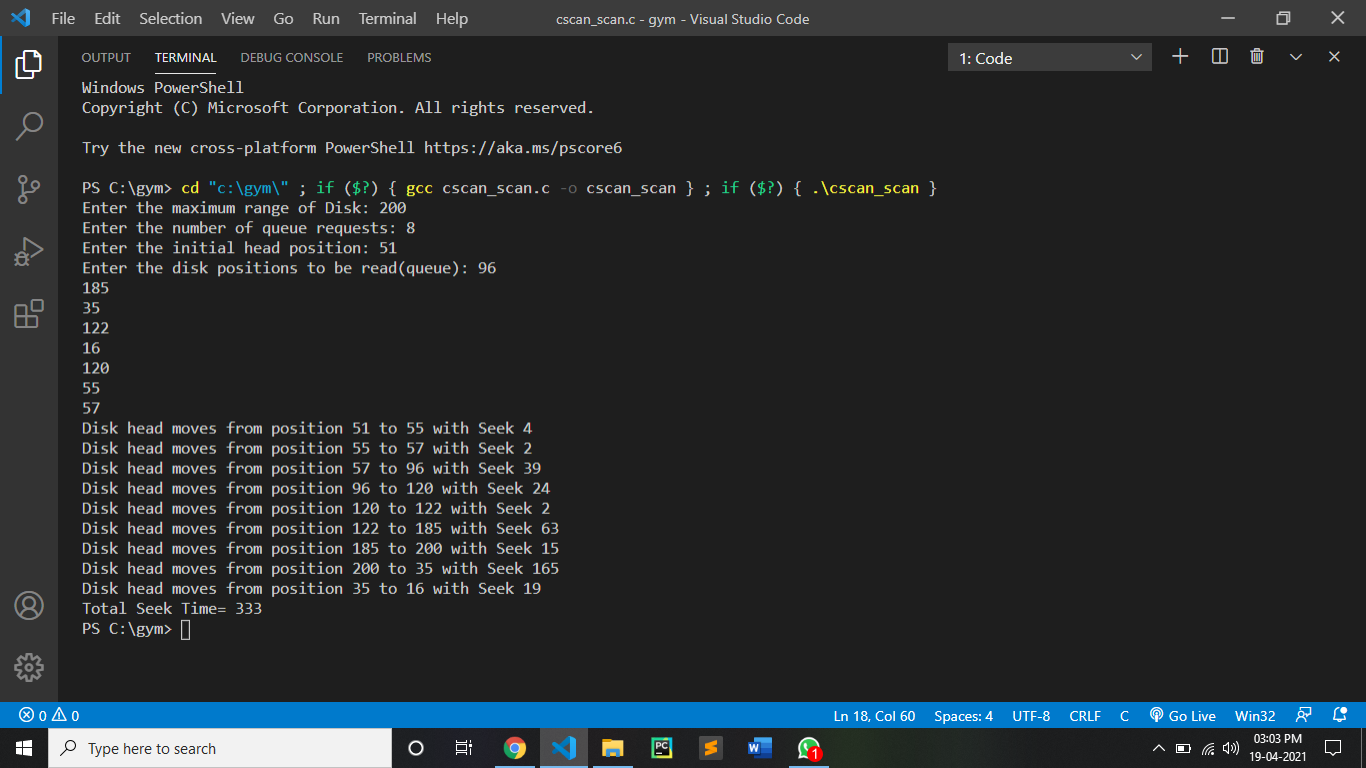
{

return x\*-1;

}

}

**OUTPUT:**

****