Dated: 06/07/2021

Experiment No. – 09 (Disk Scheduling Algorithms)

Objective:

Consider total number of cylinders as 200. Head pointers processing the cylinder 53 currently after processing the request of cylinder no 5.
New request for processing are : 98, 183, 37, 122, 14, 124, 65, 67. Find the number of cylinder crossed while processing this request using following scheduling

- **FIFO**
- **SSTF**
- **SCAN**
- **C-SCAN**
- **LOOK**
- **C-LOOK**

Note: Implement any three of them and upload the code along with output snapshot.

Program & Output:

1.FCFS

```
# FCFS Disk Scheduling
process=[98, 183, 37, 122, 14, 124, 65, 67]
n=abs(53-process[0])
for i in range(len(process)-1):
    n+=abs(process[i]-process[i+1])
print("Total Cylinders Crossed : ",n)
```

```
Total Cylinders Crossed :  640
```

2.SSTF

```
# SCAN Disk Scheduling
process=[98, 183, 37, 122, 14, 124, 65, 67]
cylinder_size=200
starting=53
starting_index=4
cycle=starting-process[starting_index]
for i in range(starting_index,len(process)-1):
    cycle += abs(process[i] - process[i + 1])
cycle+=cylinder_size-process[-1]
cycle+=cylinder_size-process[starting_index-1]
for i in range(starting_index-1,0,-1):
    cycle+=abs(process[i]-process[i-1])
print("Total Cylinders Crossed : ",cycle)
```

```
Total Cylinders Crossed :  737
```

3.SCAN

```
# SSTF Disk Scheduling
process=[98, 183, 37, 122, 14, 124, 65, 67]
check=[0]*len(process)
starting_index=4
cycle=53-min(process[starting_index],process[starting_index-1])
if process[starting_index]>process[starting_index-1]:
    i=starting_index-1
else:
    i=starting_index
check[i]=1
def returnL(index):
    for i in range(index,-1,-1):
        if check[i]==0:
            return i
    return 10000
def returnR(index):
    for i in range(index,len(check)):
        if check[i]==0:
            return i
        return returnL(index)
while(check.count(1)!=len(process)):
    l=returnL(i)
    r=returnR(i)
    cycle+= abs(process[i] - min(process[l],process[r]))
    check[i]=1
    if process[l] > process[r]:
        i = r
    else:
        i = l
print("Total Cylinders Crossed : ",cycle)
```

```
Total Cylinders Crossed :  581
```