ESPINA, Allain Daniel S.                                      Asst. Prof. Bernard G. Sanidad, DIT, DBA

3ITF                                                          November 20, 2023
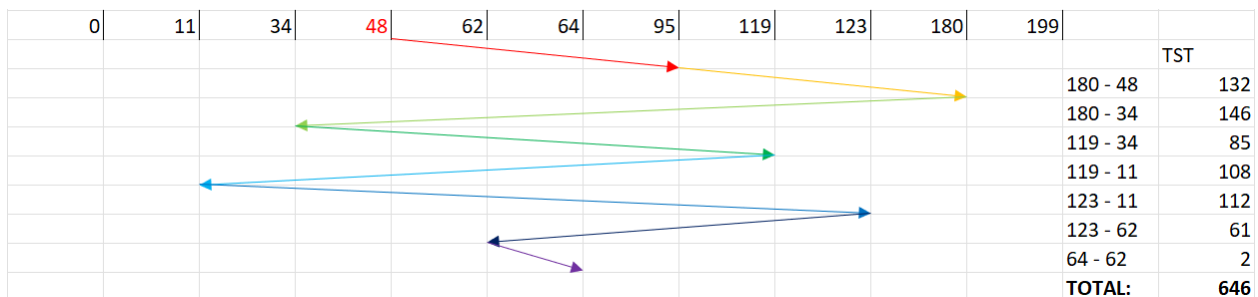

FINALS HOMEWORK 1: DISK SCHEDULING ALGORITHMS


Given the following queue: 95, 180, 34, 119, 11, 123, 62, 64, with the Read and Write Head initially at track 48, and the tail track being at 199, compute the total distance (in cylinder) of the given algorithms:

- FCFS
- SSTF
- SCAN
- C-SCAN
- LOOK
- C-LOOK

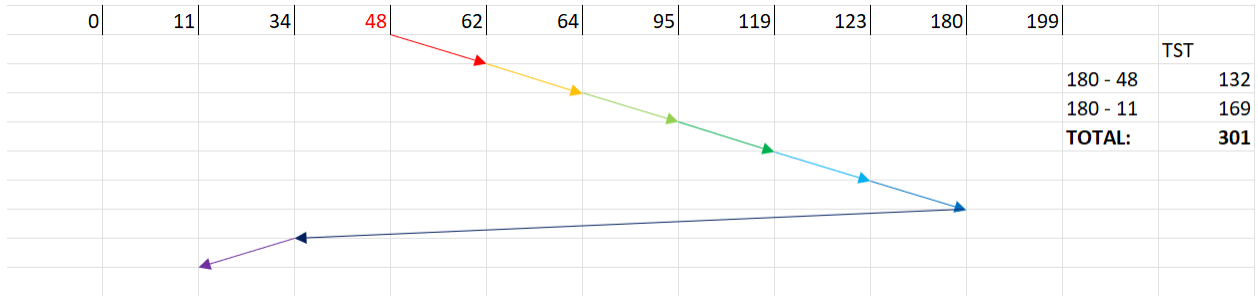Provide proper representation.


1. FCFS



| TST | |
| --- | --- |
| 180 - 48 | 132 |
| 180 - 34 | 146 |
| 119 - 34 | 85 |
| 119 - 11 | 108 |
| 123 - 11 | 112 |
| 123 - 62 | 61 |
| 64 - 62 | 2 |
| **TOTAL:** | **646** |

## 2. SSTF



| 0 | 11 | 34 | 48 | 62 | 64 | 95 | 119 | 123 | 180 | 199 | | | |
|---|----|----|----|----|----|----|-----|-----|-----|-----|---|---|---|
| | | | | | | | | | | | | TST | |
| | | | | | | | | | | | 48 - 34 | | 14 |
| | | | | | | | | | | | 34 - 11 | | 23 |
| | | | | | | | | | | | 62 - 11 | | 51 |
| | | | | | | | | | | | 64 - 62 | | 2 |
| | | | | | | | | | | | 95 - 64 | | 31 |
| | | | | | | | | | | | 119 - 95 | | 24 |
| | | | | | | | | | | | 123 - 119 | | 4 |
| | | | | | | | | | | | 180 - 123 | | 57 |
| | | | | | | | | | | | **TOTAL:** | | **206** |

## 3. SCAN



| 0 | 11 | 34 | 48 | 62 | 64 | 95 | 119 | 123 | 180 | 199 | | | |
|---|----|----|----|----|----|----|-----|-----|-----|-----|---|---|---|
| | | | | | | | | | | | | TST | |
| | | | | | | | | | | | 199 - 48 | | 151 |
| | | | | | | | | | | | 199 - 11 | | 188 |
| | | | | | | | | | | | **TOTAL:** | | **339** |

## 4. C-SCAN



| 0 | 11 | 34 | 48 | 62 | 64 | 95 | 119 | 123 | 180 | 199 | | | |
|---|----|----|----|----|----|----|-----|-----|-----|-----|---|---|---|
| | | | | | | | | | | | | TST | |
| | | | | | | | | | | | 199 - 48 | | 151 |
| | | | | | | | | | | | 199 - 0 | | 199 |
| | | | | | | | | | | | 34 - 0 | | 34 |
| | | | | | | | | | | | **TOTAL:** | | **384** |

## 5. LOOK

| 0 | 11 | 34 | 48 | 62 | 64 | 95 | 119 | 123 | 180 | 199 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | TST |
| | | | | | | | | | | | 180 - 48 | 132 |
| | | | | | | | | | | | 180 - 11 | 169 |
| | | | | | | | | | | | **TOTAL:** | **301** |

## 6. C-LOOK

| 0 | 11 | 34 | 48 | 62 | 64 | 95 | 119 | 123 | 180 | 199 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | TST |
| | | | | | | | | | | | 180 - 48 | 132 |
| | | | | | | | | | | | 180 - 11 | 169 |
| | | | | | | | | | | | 34 - 11 | 23 |
| | | | | | | | | | | | **TOTAL:** | **324** |