Worksheet 14

2/23/2025

9/9 Points

| Attempt 1 ⌄ | ◯ | Review Feedback **2/23/2025** | Attempt 1 Score: **9/9** | 💬 Add Comment |

Anonymous Grading: **no**

Unlimited Attempts Allowed

⌄ **Details**

Q1: Consider the following set of tracks to be serviced:

- 98, 183, 37, 122, 14, 124, 65, 67
- The head is initially positioned at 53.

What order will they be processed if we use shortest seek time first?

Q2: Think of the possible disadvantages of Shortest Seek Time First (SSTF)?

Answer1:

Given the order of the set of tracks,

| 98 | 183 | 37 | 122 | 14 | 124 | 65 | 67 |

We will sort the sequence first. Here is the sorted order for the set of tracks,

| 14 | 37 | 65 | 67 | 98 | 122 | 124 | 183 |

↑

initial head = 53

According to the shortest seek time first algorithm,
From initial head = 53, the shortest distant track is = 65

| 14 | 37 | **65** | 67 | 98 | 122 | 124 | 183 |

↑

Order of Processing:

| 65 | | | | | | | |

From 65, the shortest distant track is = 67

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67						

From 67, the shortest distant track is = 37

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67	37					

From 37, the shortest distant track is = 14

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67	37	14				

From 14, the shortest distant track is = 98

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67	37	14	98			

From 98, the shortest distant track is = 122

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67	37	14	98	122		

From 122, the shortest distant track is = 124

14	37	65	67	98	122	124	183

↑

Order of Processing:

65	67	37	14	98	122	124	

From 124, the shortest distant track is = 183

14	37	65	67	98	122	124	183

↑

Hence, the final order of processing (SSTF) is:

65	67	37	14	98	122	124	183

Answer2:

Disadvantages of Shortest Seek Time First (SSTF):

- Potential chance of starvation of certain blocks of tracks.
- Overhead of processing wait-time.

New Attempt