

I. REQUIREMENTS

Develop a Java program that implements two Disk Scheduling algorithms:

- **First-Come, First-Served (FCFS)**
- **Shortest Seek Time First (SSTF)**

The program will read INPUT data containing disk request sequences from

- `Dinput.data`

and simulate scheduling using the two methods. It should then OUTPUT the service order and total seek time for each method in

- `FCFSoutput.data` and
- `SSTFoutput.data`.

Then, write a report about this programming project and submit both working folder (including codes and data files) and the report.

II. FORMATS

Attention: whatever inside $\langle \rangle$ is only for explanation and should not be present/printed in the data files.

Format for “Dinput.data” (Disk Request Sequence):

```
<number_of_requests>
<initial_head_position>
<request_1>
<request_2>
...
<request_n>
```

5
50
98
183
37
122
14

Format for “FCFSoutput.data” and “SSTFoutput.data”:

```
<scheduled_sequence>
<total_seek_time>
```

50, 98, 183, 37, 122, 14
640

Format of the report of the project:

Title Page: Student name and disk scheduling methods used.

Table of Contents

1. **Algorithm Descriptions:** Explain FCFS and SSTF with examples.
2. **Implementation Details:** Describe your program.
3. **Experiments:**
 - Run your program with two different input datasets.
 - Provide results for both methods for each dataset.
 - Include charts comparing the total seek time for each method.
4. **Conclusions**
5. **References**

III. WHAT TO SUBMIT

- 1) Report file in word format (named as “LastName-FirstInitial.doc”) separately from
- 2) ZIP/RAR file (named as “LastName-FirstInitial.zip/rar”) which contains a folder with at least the following files:
 - `Dinput.data`
 - `FCFSoutput.data`, `SSTFoutput.data`
 - `DScheduler.java` (source code)
 - `DScheduler.class` (compiled executable)
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WHERE TO SUBMIT: Brightspace

DEADLINE:

- (A) Codes (working folder): ZIP/RAR file (named as “LastName-FirstInitial.zip/rar”, see above) is due before **11:00pm of the Sunday** of the week when we have the **1st lab (A)** for this PROJECT.
- (B) Report: DOCX or PDF file for the report is due before **11:00pm of the Sunday** of the week when we have the **2nd lab (B)** for this PROJECT. Please also **resubmit the codes (A)**.

NOTE: For each lab based on this project, at the end of each lab: submit a zipped file of your working folder which includes everything including the report file, to show your progress. For the project itself final version of report, software and data must be submitted (11:55pm of the day of the last lab based on this project).

The format for the **EXPERIMENTS** part of the report is similar to that of the other project (Memory Allocation).