INF 551 – Fall 2016

Homework #1

Due: September 16, 11:59 pm
100 points

- **Task**: In this homework, you are to implement the three disk scheduling algorithms: FCFS, SSTF, and C-LOOK as discussed in class.
- **Language**: Please implement your program in Python, one script for each algorithm.
- **Input**: The program takes as the input a text file, e.g., "queue.txt", formatted as follows.
  - First line the file is the track number where the disk head is currently located at.
  - Second line contains the track numbers for the requests in the queue, separated by white space (' '). Assume requests arrive in the same order as given in the file.
  - Assume that the track number starts from 0 to 199.
  - An example of the contents in queue.txt is as follows (samples also given in the assignment folder, and your submission will be graded using additional test cases not posted)
    50
    95 180 34 119 11 123 62 64
- **Execution:** Use the command line below to execute your scripts.
  python <your_script_name>.py <sample>.txt
- **Output**: Print the total seek time needed to complete all requests in the queue.
  Note that for each execution, you should only output a single integer to the standard output (stdout), **DO NOT** include any other information in your output or save your output into any files.
- **Submission**: Name your 3 scripts as below and submit to blackboard by the due time. **DO NOT** make them into folder or zip file.
  - <FirstName>_<LastName>_fcfs.py
  - <FirstName>_<LastName>_sstf.py
  - <FirstName>_<LastName>_clook.py
- **Special Case:**
  - For SSTF, if the head is the same distance away from two requests on both sides, follow the strategy that: (1) if it is the first step, move the head toward the nearest end; (2) else, move in the same direction as the previous step.