Operating System Labs July-Dec-2017

Assignment 3

Exercise 1: Multithreaded implementation of shortest remaining time next algorithm.

a) Shortest Remaining Time Next (SRTN) is a preemptive scheduling algorithm used in time sharing system. It executes a process for a time quantum and next process to be executed will be the process with the smallest remain execution time.
   Write multithreaded implementation of SRTN algorithm. This program will create two threads as, one thread will generate the processes at fixed interval whereas the second thread performs the actual execution of these processes as per the SRTN algorithm. Use random numbers to generate arrival time and burst time of these process.
   At last the main program will display various performance matrices for each process including completion time, turnaround time, waiting time, response time and their averages for this execution.

b) Now modify the program to add third thread will display the part of process statistics as soon as a process finishes (there might be some delay in between the completion time and display of statistics by third thread). In this case the main program will only display the averages (completion time, turnaround time, waiting time, response time) for the execution.