

FORMAN CHRISTIAN COLLEGE (A Chartered University)
Operating Systems Fall 2014 Section B, C
Programming Assignment 1

Date of Submission: Oct 30, 2014 (11:59 am)

In this assignment you are required to implement Shortest Remaining Time First scheduling algorithm using any programming language of your choice.

Your program should accept two arrays from user. One comprising of the process's Service Time and the other carrying process's Arrival Time. Program should have the flexibility of accepting varying number of processes, without making any change in the code. For example, I can provide data for three processes to the program and next time when I execute it I can provide data for ten processes. Your program should be able to display the sequence of processes that execute using SRTF, as well as compute performance criteria like Average Waiting Time for the data provided. Try some simple scenarios with four or five processes using manual calculations and then apply the same data to your function. Make sure that the results should tally.

You must create a function and pass the required data to your function. Your function should either return the results or it may also display the results from within.

The output format is shown. Note that in Process Time Line section, there are two lines of information. First line (obviously) shows the processes in the sequence of their execution. Second line represents the time at which a process has finished (preempted) and next one has started its execution. Waiting Time section is self explanatory.:

Process Time Line:

P1	P2	P1	P3	P2	P4
0	3	7	10	12	16

Waiting Times:

P1: 0

P2: 3

P3: 5

P4: 7

Average Waiting Time: 3.75

You must provide at least five different data sets to your program

Submission Format:

You must submit a hard copy (report) of your assignment. This should comprise following sections:

- Abstract
- Introduction
- Code
- Results
- References

There will be a viva at the end of the semester where you must show your code running and producing results. I may also ask you few questions about the code that you have written.

Please consider submission date and time as hard deadlines. If you are not able to produce your report on the given time, 10% marks SHALL be deducted per day. Note that day ends at 12:00 noon. Week end (Sat and Sun) will be considered as two days. No submission will be accepted on email.