



BIRZEIT UNIVERSITY

Electrical and Computer Engineering Department
ENCS339 Operating Systems, Second Semester, 2018-2019
Quiz on HW1 Wednesday, March 20, 2019

1. Question 1. Given the following set of processes and that priority 1 is highest:

Process Arrival Burst Priority

Table with 4 columns: Process, Arrival, Burst, Priority. Rows: A (0, 4, 5), B (2, 3, 3), D (3, 2, 4)

- a. The order of execution under NON_Preemptive priority is: 1- A 2- B 3- D 4- 5-
b. The order of execution under Preemptive priority is: 1- A 2- B 3- D 4- A 5-
c. The order of execution under RR with time quantum 2: 1- A 2- B 3- D 4- A 5- B
d. The order of execution under Longest job first: 1- A 2- B 3- D 4- 5-

Question 2. For the following table of processes do the needed calculations and averages assuming multiprogramming with a very small quantum and unlimited degree of multiprogramming and ignoring overhead resulting from context switch. Jobs are served as soon as they arrive. All jobs have the same wait time percentage when mono-programmed. Do the calculations again using FCFS batch processing and compare the results.

- a. Jobs A and B and C are working between t=4 and t= 9: and each has 50% wait: how much CPU time each job gets? Answer:(0.875/2)(9-4)=1.458H
b. How much of that time is the CPU idle (doing nothing). Answer:0.125*5=0.625H (or 5-1.458*3)
c. Jobs D and E are working between t=10 and t= 12: and each has 80% wait: how much CPU time each job gets? Answer: (0.36/2)(2)=0.36H

Given the table below: what is the order in which processes A,B,C,D finish? C->A->B->D (by length)

Table with columns: Process Name, Arrival Time, NT= CPU+IO Time, Start Time, End Time, TA Time, # P, 20%wait, 50%wait, 80%wait, 90%wait. Rows for processes A, B, C, D.

Good luck