L2910-5335 Quiz 2 VerA

Phong Vo

TOTAL POINTS

8 / 10

QUESTION 1

1 When does a deadlocked state occur? 2 / 2

✓ **- 0 pts Correct**

- 2 pts Incorrect (correct answer is "Every process in a set is waiting for an event that can only be caused by another process in the set")

QUESTION 2

2 Exponential averaging 2 / 2

✓ **- 0 pts Correct**

- 2 pts Incorrect (correct answer is "SJF/SRTF")

QUESTION 3

3 Resource-allocation graph cycle 1 / 1

✓ **- 0 pts Correct**

- 1 pts Incorrect (correct answer is True)

QUESTION 4

4 Unsafe state = deadlock state 1 / 1

✓ **- 0 pts Correct**

- 1 pts Incorrect (correct answer is False)

QUESTION 5

Single instance resource system 4 pts

5.1 Draw resource allocation graph 1 / 2

- 0 pts Correct

✓ **- 1 pts Partially correct (some edges or nodes missing or incorrect)**

- 2 pts No answer (not enough to grade)

5.2 Is this system in deadlock? 1 / 2

- 0 pts Correct

✓ **- 1 pts Partially correct**

- 1 pts Incorrect

- 2 pts No answer provided

The system is in deadlock, but the question also states "Briefly explain your answer." The explanation is that a circular wait condition exists in this system.

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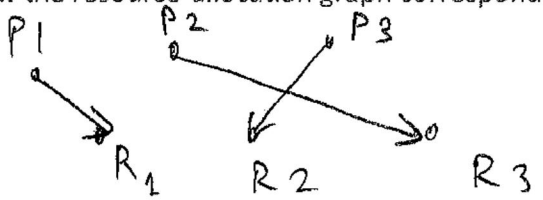
Quiz #2 (Module 4)

COMP.3080 – Operating Systems

Fall 2019 – Dr. Wilkes

1. (**multiple choice**) (2 pts) (**MARK A SINGLE CHOICE**) When does a deadlocked state occur?
   - ○ A process is unable to release its request for a resource after use.
   - ○ A process is waiting for I/O to a device that does not exist.
   - ● Every process in a set is waiting for an event that can only be caused by another process in the set.
   - ○ The system has no available free resources.
   - ○ None of the above
2. (**multiple choice**) (2 pts) (**MARK A SINGLE CHOICE**) Which type of scheduling is approximated by predicting the next CPU burst with an exponential average of the measured lengths of previous CPU bursts?
   - ○ FCFS
   - ○ Multilevel queue
   - ○ RR
   - ● SJF/SRTF
   - ○ None of the above
3. (**T/F**) (1 pt) In a resource-allocation graph, a cycle is a necessary and sufficient condition for a deadlock in the case that each resource has exactly one instance.
   - ● True
   - ○ False
4. (**T/F**) (1 pt) An unsafe state is necessarily, and by definition, always a deadlocked state.
   - ○ True
   - ● False
5. (**short answer**) (4 pts total) A system has the following characteristics:
   - There are three processes called P1, P2, & P3.
   - There are three resource types R1, R2, & R3, and there is a single instance of each resource type.
   - R1 has been allocated to P1, R2 has been allocated to P3, and R3 has been allocated to P2.
   - P2 is waiting for R1, P1 is waiting for R2, and P3 is waiting for R3.

   a. (2 pts) Draw the resource-allocation graph corresponding to the system described above.



   b. (2 pts) Is this system in deadlock? Briefly explain your answer.

Yes, it is in deadlock