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CSCI 4210 — Operating Systems ⋈ Spring 2020 Quiz 7 (April 20, 2020)

- This is an open book, open notes quiz. Please do not use any other people as resources including your classmates.
- This quiz is designed to take 25 minutes; therefore, for 50% extra time accommodations, the expected time is 38 minutes and 100% extra time accommodations is 50 minutes (i.e., the end of class).
- Questions will not be answered except when there is a glaring mistake or ambiguity in a question. Please do your best to interpret and answer each question.
- Below is an honor code pledge for this course. By submitting this quiz for grading, you are asserting that you agree with and will abide by this pledge.

Honor Pledge: On my honor, I have neither given nor received any unauthorized aid on this quiz.

1. (4 POINTS) What does the return code from the select() when the timeout value is exceeded without a file descriptor becoming ready? Circle the best answer.

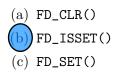


(d) Number of file descriptors idle

(e) EXIT_FAILURE

(f) None of the above

2. (4 POINTS) Which macro can be used to check if a file descriptor has pending activity when the select() statement returns? Circle the best answer.

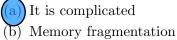


(d) FD_ZERO()

(e) All of the above

(f) None of the above

3. (4 POINTS) What is not a disadvantage of a Fixed Partitioning Scheme? Circle the best answer.



(d) Processes interfere with one another

(e) All of the above

(c) Does not work with relocatable code

(f) None of the above

For questions 4 and 5, consider a Dynamic Memory scheme allocating contiguous memory for processes. Each question begins with an initial memory map MEMORY (dynamic partitioning scheme):

AAAAAAAAAAAAAAAAAAAAAAAAAABBB	The set of A's defines one partition
BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	(for process A), the set of B's defines
BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	another partition, etc.
$. \verb CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC$	
cccccccccccccccccccccccccccccccccccccc	
MMMMMMMMMMMMMMMMMMMMMM	
MMMMMMMMMMMMMMMM	
	As time goes by, processes arriving
FFFFFFFFFFFFF	and leaving the system cause the memory
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	to become increasingly fragmented
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	
FGGGGGGGGGGGGGGG	
ннннннннн	
And inserts a new process \mathbf{Y} requiring 10 i	memory units.
(4 DOINTS) Wh	li 4b - WODSE FIE -li4b 2 Cin.l. 4b -
best answer.	l using the WORST FIT algorithm? Circle the
best answer.	
(a) After B	(d) After N
(b) After C	(e) After G
(c) After M	(f) After H
	using the NEXT FIT algorithm? Assume H was
the process that came just before \mathbf{Y} Circle	the best answer.
(a) After B	(d) After N
(b) After C	(e) After G
	、
(c) After M	(f) After H

4.

5.