HW3

Due No due date **Points** 1 **Questions** 4
Available Nov 8 at 12pm - Dec 2 at 2pm 24 days **Time Limit** 60 Minutes
Allowed Attempts Unlimited

Instructions

Please finish before Wednesday Nov. 13 12pm.

This quiz was locked Dec 2 at 2pm.

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	2 minutes	0.94 out of 1
LATEST	Attempt 2	2 minutes	0.94 out of 1
	Attempt 1	6 minutes	0 out of 1

Score for this attempt: **0.94** out of 1
Submitted Nov 13 at 10:48am
This attempt took 2 minutes.

Question 1 **0.3 / 0.3 pts**

i	execution time	priority
0	80	3
1	20	1
2	10	4
3	20	5
4	50	2

Assume that you use priority scheduling where a small integer means a **higher** priority. Also assume that all processes arrive at time 0. The execution time is in ms.

Please answer the following questions:

- Process # 1 will be scheduled first;
- Process #0 finishes at 150 ms;
- The total response time (waiting time plus execution time) for process #2 is 160 ms;
- The waiting time of Process #3 is 160 ms;
- The average waiting time of all processes is 80 ms;

Answer 1:

Correct! 1

Answer 2:

Correct! 150

Answer 3:

Correct! 160

Answer 4:

Correct! 160

Answer 5:

Correct! 80

Question 2

0.3 / 0.3 pts

Among the scheduling algorithms of FIFO, SJF, RR, and Max-Min, please answer the following questions:

- SJF (enter FIFO, SJF, RR, or Max-Min) may cause starvation and can be resolved with aging technique;

- RR (enter FIFO, SJF, RR, or Max-Min) usually end up all processes/threads finish around the same time if they arrive at the same time and have the same execution time;
- Max-Min (enter FIFO, SJF, RR, or Max-Min) helps correct the unfairness for IO-bound threads when round robin is applied;
- RR (enter FIFO, SJF, RR, or Max-Min) usually incurs overhead when frequently perform involuntary time interrupts of threads when a specific time slice is being used;
- FIFO (enter FIFO, SJF, RR, or Max-Min) does not cause starvation and is better than RR on total response time (waiting time plus execution time).

Answer 1:

Correct! SJF

Answer 2:

Correct! RR

Answer 3:

Correct! Max-Min

Answer 4:

Correct! RR

Answer 5:

Correct! FIFO

Question 3

0.24 / 0.3 pts

Suppose a stable system has on average 100 tasks arriving per second and average response time (R) = 50 ms/task. Please calculate the following:

- Throughput (X) = 100 tasks/s;
- 5 number of tasks are in the system on average;
- If the server takes 5 ms/task, its utilization is .5 ;
- The average wait time is 45 ms/task;
- The average number of queued tasks is 4.5 requests.

Answer 1:

Correct! 100

Answer 2:

Correct! 5

Answer 3:

ou Answered .5

orrect Answer 0.5

orrect Answer 50%

Answer 4:

Correct! 45

Answer 5:

Correct! 4.5

Question 4

0.1 / 0.1 pts

When the utilization is 20%, the ratio of response time and service time, R/S is 1.25 . When it increases to 90%, R/S is 10 .

Answer 1:

Correct! 1.25

Answer 2:

Correct! 10

Quiz Score: **0.94** out of 1