CSL 3030 Quiz 2

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MCQ Type questions

Choose the correct one.

Convoy effect is a resultant of

- ○ One CPU bound and many I/O bound processes
- ○ Many CPU and I/O bound processes
- ◉ Many CPU bound processes and less I/O bound processes
- ○ Proper mix of CPU and I/O bound processes

Clear selection

Given n processes to be scheduled on one processor using non-preemptive, how many possible different schedulers are there?

- ○ n-1
- ○ n
- ○ n^2
- ◉ n!

Clear selection

In which of the following cases SRT (shortest Remaining Time) and SJF (Shortest Job First) give identical result?

- (●) If every request arriving is longer than the time remaining for the currently running process
- ( ) If a long job is running when a shorter one arrives
- ( ) Both A and B
- ( ) None of these

Clear selection

Which of the following is not a reason to make a system thrash?

- (●) use of global page replacement policy
- ( ) more newer processes are introduced observing a drop in CPU utilization
- ( ) some of the processes are swapped out of main memory during their execution
- ( ) non-availability of free frames in the system

Clear selection

Assume in a uniprocessor system, TLB access time is 10 nanosecond and main memory access time is 40 nanosecond. Suppose while running a program, it was observed that 90% of the processor's read requests result in a TLB hit. The average read access time in nanoseconds is_____.

- (●) 54
- ( ) 50
- ( ) 17
- ( ) 13

Clear selection

Consider the case of three jobs P1, P2 and P3 with run times as x, y, z respectively where x < y < z. Which one of the following suggests the mean turn around time if all processes arrive at time 0 and SJF scheduling technique is used?

- ○ (x+y+z)/3
- ◉ (3x+2y+z)/3
- ○ (x+2y+3z)/3
- ○ (2x+2y+2z)/3

Clear selection

Which of the following is not true regarding Kernel memory allocation?

- ○ Buddy system memory allocation suffers from fragmentation but helps in coalescing unused chunks into larger ones
- ◉ SLAB allocator speeds up the memory request at the cost of keeping per-CPU queues
- ○ SLOB allocator is used in Linux system with limited memory that keeps three list of blocks in variable size
- ○ SLUB is performance optimized SLOB that enables efficient meta-data distribution in a multi-processor environment

Clear selection

Use the exponential average formula to predict the length of next CPU burst, if =0 and 0 (past history) = 10ms then predict the next CPU burst size i.e. 1

- ○ 5ms
- ○ 15ms
- ◉ 10ms
- ○ 20ms

Clear selection

Given five memory partitions of 100 KB, 500 KB, 200 KB, 300 KB, and 600 KB (in order), consider the execution of first-fit, best-fit, and worst-fit algorithms to allocate the memory requests of processes for 212 KB, 417 KB, 112 KB, and 426 KB (in order). Which of the following is true?

- ○ Both 100 KB and 300KB holes remain unallocated for the Worst-fit algorithm.
- ○ Both 100KB and 200KB holes remain unallocated for the First-fit algorithm.
- ◉ All holes are allocated for the Best-fit algorithm.
- ○ All holes except 100KB are allocated for the Best-fit algorithm.

Clear selection

Determine the True (T) / False (F) of the following statements.(I) Every thread has its own memory image(II) A thread shares all the resources of the process except the stack and registers(III) A thread shares all the resources of the process except the stack, registers and set of open files.(IV) Multiple threads share the same resources except the code and data section.

- ○ TFTF
- ◉ FTFF
- ○ FTFT
- ○ FFFT

Clear selection

Assume a main memory with four page frames and the CPU generates following sequence of page references: 4, 9, 3, 4, 10, 2, 7, 4, 9, 10, 4, 7, 3, 2, 4. Find out the difference between the number of page faults when the page replacement policy is LRU in compared to Optimal.

- ○ 1
- ◉ 2
- ○ 3
- ○ 4
- ○ 0

Clear selection

While using a 8-bit shift register for LRU implementation for which the MSB signifies the reference bit for the page, which one of the following options reflects the correct interpretation of the victim page?

- ○ 11001001
- ○ 11110010
- ○ 00111101
- ○ 01011011

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