

Name: _____

gtID: _____

(e.g. gtg123a)

1. Do you know the conditions under which a process/thread may join the ready queue and leave the ready queue? Y / N
2. Can you name all the steps that happen during a context switch? Y / N
3. Can you name at least three different types of interprocess communication? Y / N
4. Do you know what is meant by Data Race in a parallel program? Y / N
5. In a preemptive scheduler, do you understand what the word “preemptive” refers to? Y / N
6. Do you understand the difference between “round robin”, “shortest-job-first”, and “priority scheduling”? Y / N
7. Do you know the name for a section of code that accesses variables or resources that are shared between multiple threads of execution? Y / N
8. Do you know the necessary and sufficient conditions for deadlock to occur? Y / N
9. Do you understand why, when, and how to use mutual exclusion? Y / N
10. Can you describe the role the translation look-aside buffer (TLB) plays in a virtual memory system? Y / N
11. Do you understand the difference between a “segment” and a “page” in a memory hierarchy? Y / N
12. Do you know the difference between a “page” and a “frame” in a virtual memory system? Y / N
13. Do you know the difference between “first-in, first-out”, “least-recently-used”, and “least-frequently-used” replacement policies? Y / N
14. Do you know what it means for a process to “trap” to the kernel? Y / N
15. Can you name the mechanism by which asynchronous hardware events may notify the CPU (and thus the kernel) of an event? Y / N

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| 16. | Can you explain why “ports” are necessary in network communication? | Y / N |
| 17. | Do you know what processor cache (e.g. L1, L2) has to do with context switches? | Y / N |
| 18. | Have you written a substantial (i.e. not “Hello World”) program in C or C++? | Y / N |
| 19. | Have you written a multi-threaded program? | Y / N |
| 20. | Have you written a networked program using a sockets API (e.g. Linux/POSIX sockets or winsock)? | Y / N |
| 21. | Have you written a program that handles one or more signals in Linux/POSIX? | Y / N |
| 22. | Do you know how to take timing measurements of a program? | Y / N |