CS 314-001 Operating Systems, Spring 2023
Quiz #3 on January 31, 2023

List of the Possible Questions

#1: What are the two modes of processors?

#2: How do operating systems make sure that user programs can never use the hardware resources by bypassing the operating systems?

#3: What is “monolithic structure OS” (define the one)? Mention at least one primary advantage and disadvantage.

#4: What is “layered (or modularized) structure OS” (define the one)? Mention at least one primary advantage and disadvantage.

#5: Look up the meaning of the following word using your textbook: “OS kernel”.

#6: Many operating systems use “external commands”. What are they? What is the primary reason to adopt them? What is the primary difference between “external commands” and “micro-kernel architecture”?

#7: Describe how “micro-kernel architecture” and “non micro-kernel architecture” are different in how system calls issued by user applications will be executed.

#8: What are the advantages in using “micro-kernel architecture”? What is the primary disadvantage in “micro-kernel architecture”?

#9: What are the three different levels of “process scheduling” (just name the three)?

#10: What are the two states in “the long-term process scheduling”?

#11: What is “thrashing”? Technically explain how does “thrashing” occur?

#12: What is “Blocked” state in “the long-term process scheduling”?

#13: What is “the short-term process scheduling”?

#14: What are the three states in “the short-term process scheduling”?

#15: What is “Ready” state in “the short-term process scheduling”?

#16: What is “Running” state in “the short-term process scheduling”?

#17: What is “Blocked” state in “the short-term process scheduling”? 
#18: What is “the medium-term process scheduling”?

#19: Show a sketch of the integration of the short-term, medium-term, and long-term process scheduling as a directed state-transition diagram.

#20: How does “FCFS” process scheduling algorithm work?

#21: How does “RR” process scheduling algorithm work?

#22: How does “SJF” process scheduling algorithm work?

#23: How does “SRTF” process scheduling algorithm work?

#24: What is “preemptive process scheduling”?

#25: What is “non-preemptive process scheduling”?

#26: What is “throughput” (in the context of process scheduling)?

#27: What is “response time” (in the context of process scheduling)?

#28: What is “turnaround time” (in the context of process scheduling)?