

1. [6 pt] The use of `exec1` system call changes the program while retaining the process. Explain how is it achieved.
2. [6 pt] The current generation of processors from different vendors are billed as multi-core CPUs. Will you classify them as SIMD, MIMD, or SMP processors? Briefly explain your answer.

3. [6 pt] We say that the kernel protects the system from a user. What is it that the kernel is trying to protect? Why is it important for the operation of the system?
4. [6 pt] Briefly describe the operation of handshaking protocol.
5. [6 pt] How does the operating system acquire control from user process to perform a process switch. Describe all possibilities.

6. [6 pt] What is the difference between daemons and zombies in Unix? Is any of them essential to the working of the system?

7. [6 pt] Explain the difference between a general counting semaphore and a condition used to implement monitors.