OPERATING SYSTEM

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1. Identify and describe the various types of Operating Systems and their functions.
2. Differentiate between interrupt driven programming, concurrent processing, multiprogramming, batch processing, and time sharing.
3. Explain the concepts of processor and user modes, kernels, system calls, and system programs.
4. Analyze the process hierarchy, threads, and process scheduling algorithms.
5. Evaluate the usage of semaphores, critical sections, and methods to prevent deadlocks in concurrent processes.
6. Compare and contrast memory management strategies such as physical and virtual address space, memory allocation strategies, and paging.
7. Describe directory structures, file operations, file allocation methods, and disk scheduling algorithms in file and I/O management.
8. Explain the basics of protection and security in an Operating System, including authentication, internal access authorization, and security measures.