

OS Cheatsheet with Diagrams & Practice Questions

Process States Diagram

(Diagram: Process States Diagram would be placed here)

Page Replacement Comparison

(Diagram: Page Replacement Comparison would be placed here)

Deadlock Resource Allocation Graph

(Diagram: Deadlock Resource Allocation Graph would be placed here)

Practice Questions

1. What is the difference between a process and a thread?
2. Explain the steps involved in a context switch.
3. Compare and contrast FCFS, SJF, and Round Robin scheduling algorithms.
4. What are the four conditions for a deadlock to occur?
5. Given a reference string, simulate LRU and FIFO page replacement.
6. Explain the concept of segmentation and paging in memory management.
7. How does a system call differ from a normal function call?
8. Write a shell command to list all running processes and filter by name.
9. Describe how mutual exclusion is implemented using semaphores.
10. Draw a Resource Allocation Graph and show how deadlock can be detected.