Operating System Mini Cheatsheet

System Calls (Very Important)

System calls provide the interface between a process and the operating system.

1. fork() - Creates a new child process.

   - Returns: 0 to child, PID to parent, -1 on error

2. exec() - Replaces current process with a new program.

   - Often used after fork()

3. wait() - Parent waits until child finishes.

4. exit() - Terminates a process and returns status.

5. open(), read(), write(), close() - Used to handle files.

File System Concepts

File Access Methods:

1. Sequential - Access data in order.

2. Direct - Access data at any location.

3. Indexed - Use an index block to locate data.

File Allocation Techniques:

1. Contiguous Allocation - All file blocks together (fast but can cause fragmentation).

2. Linked Allocation - Each block points to the next (no fragmentation, slower access).

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3. Indexed Allocation - Uses a separate index block to access file blocks.

Terms:

- Directory Structure: Single-level, Two-level, Tree, Acyclic graph

- Inode: Stores metadata (used in UNIX/Linux)