CECS 326-01

Operating Systems

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Assignment 3

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Program Description

1. Unity
    a. Together, these programs demonstrate how to use shared memory for interprocess communication, with master.c orchestrating the creation, execution, and management of child processes while slave.c performs the actual data insertion in a coordinated manner.

2. What each program does individually.
    a. **master.c:** This program serves as the controller. It first creates a shared memory segment and initializes it, then spawns multiple child processes, each of which executes slave.c. Each child process is assigned a unique identifier and instructed to write its ID into the shared memory. master.c waits for all child processes to complete, displays the shared memory content, and then removes the shared memory segment before exiting.

    b. **slave.c:** Each instance of slave.c accesses the shared memory segment created by master.c, writes its unique ID into the next available slot, and increments the index for future entries. After updating the shared memory, it closes access and terminates.