**CECS 326-01**

Operating Systems

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Assignment 3

Due Date: 10/29/2024

Submission Date: 10/29/2024

Program Description

This assignment shows how shared memory can be used to communicate between processes using POSIX commands (shm\_open(), shm\_unlink(), mmap(), munmap(), etc.). The two programs master.c and slave.c, show the concepts of shared memory by creating parent and child processes that share data through a shared memory object. The master program takes in the number of children to create and the name for the shared memory object, creates a shared memory segment with shm\_open(), maps it to its own memory space with mmap(), and creates as many slaves as needed. Each slave is passed the name of the shared memory segment and its identifier, which they use to update a report slot in the shared memory. The master waits for all child processes to terminate with wait(), prints the contents of the shared memory then finally unmaps with munmap() and removes the shared memory segment. This assignment shows how multiple processes can share data and coordinate with one another through shared memory.