Dhairya Chaudhary
2019035

OS Assignment 3

Description of Code

The test code simply forks into a parent and child process. The parent process calls the system call (with a suitable value of x) and the child doesn't. Then both perform the same tedious calculation. Finally, the time taken by both is printed (in ms).

The system call looks for the process with the given PID and changes its rt_nice value to what we have specified. Then this can be used by our modified scheduler that considers the rt_nice value.

Input/Output

The system call accepts pid and the time slice as input. I have provided 3 scripts for testing the changes.

Script 1

Runs a very long loop in both parent and child and prints the time taken by both.

Script 2

Runs an inefficient (time-consuming) recursive implementation for finding the nth term of the Fibonacci sequence

Script 3

Runs the Ackerman function for both.

In the output, we first print the PIDs of the child and the parent and then print the time taken in both cases.

Errors Handled

1. Negative PID or too large passed to the system call
2. Negative time slice passed to the system call
3. Non-existent PID passed to the system call