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Current Module: Operating Systems

Project Name: Signaler

Project Goals:

Create a prime number generator which responds to operating system signals.

Considerations:

- o The PID must be known.
- o Not all signals can be handled.
- o Signal handling functions can not be passed additional variables.
- o Signal handling functions return nothing.

Initial Design:

signalerlib.c will contain all signal, and argument handling code. Signaler.c contains main, which is the prime generator.

Data Flow:

The main function contains the prime generator, and calls to the signal handling code, which will be activated upon receipt of an interrupt/signal from the user by way of the operating system. The program will stop when killed, or when a user specified endpoint is reached.

Communication Protocol:

IPC (inter process communication) is used. A shell can send interrupts/signals to to running signaler program, altering its current behavior.

Potential Pitfalls:

- o Global variables must be used.

Test Plan:

User Test:

Multiple runs of the program, using every variation/combination of options and inputs the user can think of.

Test Cases:

All test cases completed with correct output.

Conclusion:

Interaction with signals via the existing signal library requires the use of global variables, which we've been taught are best avoided, so the experience was uneasy. Otherwise construction was mostly straightforward.

