Lab 1 Questions

1. 4 Program errors and their usage:

- SIGFPE: Floating Point Exception
    - This error reports arithmetic errors from division by zero to integer overflows. Probably the most important error signal there is.
- SIGSEGV: Segmentation Violation
    - SIGSEGV is generated when a program tries to use more memory than allocated. For example, array[5] = 'a' when an array has length of 5.
- SIGABRT: Abort
    - When a program aborts for whatever reason, this signal is called.
- SIGSYS: Bad System call
    - Happens when a system call is executed but the system call does not exist.

2. 4 Termination Signals and usage:

- SIGINT: Interrupts
    - Disrupt the execution of the program. Usually quits the program but can be handled.
- SIGQUIT: Quit
    - SIGQUIT is similar to SIGINT but it creates a dump of the machine state. Using this would help immensely with debugging.
- SIGTERM: Terminates
    - A signal to terminate a process. Unlike SIGKILL, this signal can be handled or blocked.
- SIGKILL: Kill
    - Mercilessly stop a process from running. No exceptions. Used when a program won't respond to other termination signals, usually.

3. What signal is impossible to handle or ignore? Why?

SIGKILL. It's necessary to have a signal that terminates a program that can't be blocked. Otherwise, the only way to stop execution for a bug or malicious program would be to turn the computer off.

4. Implemented in signalHandling.c