Operating Systems
COMS W4118
Lecture 8

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1 Signal API

- `sigset_t` is an integer that is assigned to a signal.
- There is no signal number 0.
- If you have more than 31 signals, you cannot use an integer to represent it and instead you must use a `long`.
- `sigset_t` is a generic name to control the number of the signal.
- We assume that it is an `int`.
- The operating system will queue a pending signal, but it will only queue one of the signals.
- One of each signal can be pending.

2 `sigaction()` function

- While in a signal handler, you can tell the operating system to block certain signals.
- `sigaction` always retains the signal handler. So it will not revert to the default value after 1 signal is caught.

3 POSIX Threads

- Threading is an extremely important concept for Operating Systems.
- When you `fork`, you create a child and a parent process.

- Web servers should `fork` when `accept()` is called to allow multiple clients in the system.
- In order to allow process communication, you would need shared memory or pipes between the client processes.
- Threading allows two processes to be running, but they share the same memory space.
- Spawn a thread and it shares a memory space with other threads.
- Threads do not share a stack.
- Each thread has a placement on the thread.
- `pthread_join` is similar to `wait_pid`.