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Homework #1

Problem 1.1: system call errors

1. A condition that causes the following to return -1 and that sets errno to a distinct value is:
    a) Int open(const char *path, int oflag, …)
        i) ENAMETOOLONG - is a runtime error that basically means the filename or the path is too long for the system to handle
        ii) ENOTDIR - While resolving a path, the kernel expects each Intermediate component to be a directory
    b) Int close(int fildes)
        i) EINTR - The close() function was interrupted by a signal handler while the kernel was performing a close.

2. The value of errno after a system call completes without an error is retained so it keeps the same value that it previously had. If no error has ever occurred in said program, then the value of errno is 0.

Problem 1.2: repeat a string many times

d)

After measuring with different buffer sizes and buffer modes I came to the conclusion that:

1. Unbuffered is always slowest (too many syscalls).
2. Line buffering is good for interactive programs.
3. Block buffering is fastest for bulk output.
4. Bigger buffers reduce syscalls, but after a while it wastes memory.