1. STRACE a small program.

1a) First five most frequently invoked system calls:

mmap (8), brk (4), mprotect (4), mprotect (4), open (3)

Source: http://man7.org/linux/man-pages/man2/syscalls.2.html

open("myTstFile", O\_RDWR) = -1 ENOENT (No such file or directory) is the

offending line that caused the program to fail.

The system call that caused the program to fail is open().

1b) The system call "write()" is called 199 times in a 240 line output.

write() is the most frequently invoked system call.

1c) fopen is not a system call. fopen is primarily correlated with the open() system call.

Source: http://man7.org/linux/man-pages/man3/fopen.3.html

1d) printf is not a system call. printf is primarily correlated with the write() system call.

Source: http://man7.org/linux/man-pages/man3/printf.3.html

2) STRACE a Linux utility command -- cal.

After running "strace --c cal" the top 3 system calls by system time consumption are:

read(), write(), and open().

"read() attempts to read up to count bytes from file descriptor fd into the buffer starting at buf"

read() is a system call that reads some data from a file into a buffer.

http://man7.org/linux/man-pages/man2/read.2.html

"write() writes up to count bytes from the buffer starting at buf to the file referred to by the file descriptor fd"

write() is a system call that writes some data from a buffer to a file.

http://man7.org/linux/man-pages/man2/write.2.html

"The open() system call opens the file specified by pathname."

open() opens a given file. If the file doesn't exist and an option is specified, open() can create the file.

http://man7.org/linux/man-pages/man2/open.2.html

3) STRACE/LTRACE Linux utility commands “ls”.

3a) openat() opens the given directory

via line 102:

openat(AT\_FDCWD, ".", O\_RDONLY|O\_NONBLOCK|O\_DIRECTORY|O\_CLOEXEC) = 3

3b) getdents() reads a directory's contents out.

via line 103-104:

getdents(3, /\* 9 entries \*/, 32768) = 248

getdents(3, /\* 0 entries \*/, 32768) = 0

3c) write() writes to stdout or whatever output you've specified

via line 108:

write(1, "1a\n1b\n2\n3ltrace\n3strace\ncode.c\nP"..., 421a