

## which of these require exceptions? context switches?

- A. program calls a function in the standard library
- B. program writes a file to disk
- C. program A goes to sleep, letting program B run
- D. program exits
- E. program returns from one function to another function
- F. program pops a value from the stack

# which require exceptions [answers] (1)

- A. program calls a function in the standard library  
no (same as other functions in program; some standard library functions might make system calls, but if so, that'll be part of what happens after they're called and before they return)
- B. program writes a file to disk  
yes (requires kernel mode only operations)
- C. program A goes to sleep, letting program B run  
yes (kernel mode usually required to change the address space to access program B's memory)

## which require exceptions [answer] (2)

D. program exits

yes (requires switching to another program, which requires accessing OS data + other program's memory)

E. program returns from one function to another function

no

F. program pops a value from the stack

no

## which require context switches [answer]

no: A. program calls a function in the standard library

no: B. program writes a file to disk

(but might be done if program needs to wait for disk and other things could be run while it does)

yes: C. program A goes to sleep, letting program B run

yes: D. program exits

no: E. program returns from one function to another function

no: F. program pops a value from the stack