

# Programming Assignment #1: 537 ps

\$ ./537ps -p <pid> -s -U -S -v -c -mem <addr> <len>

(allow multiple occurrences for EC)

single-character process info from /proc/<pid>/stat "state" field  
DEFAULTS OFF

user time /proc/<pid>/stat "utime" field  
DEFAULTS ON

system time /proc/<pid>/stat "stime" field  
DEFAULTS OFF

virt. memory pages /proc/<pid>/statm first field, "size"  
DEFAULTS OFF

command 'displays the command line that started this program' /proc/<pid>/cmdline  
DEFAULTS ON  
! null-terminated strings

EXTRA CREDIT:  
hexdump of memory starting at <addr> and going for <len> bytes  
/proc/<pid>/mem  
use ptrace?

## Data Sources

/proc/pid/stat → state (-s)  
→ utime (-u)  
→ stime (-S)

/proc/pid/statm → size (-v)

/proc/pid/cmdline → invocation in the form of null-terminated strings (-c)

/proc/pid/mem → process memory (-mem)  
OR ptrace()

## Program Design

flags:

- output specifiers
- pid

???

output (text)