

strace/ltrace/ELF/Process Layout Questions

1. What is Address Space Layout Randomization?
2. What does the command ldd tell us? Where is the information that ldd displays stored (be as specific as possible).
3. How does R_OK | W_OK produce the value 6?
4. Why does fork() not appear in the strace output we captured for CS460_SysCalls?
5. What is execve() doing?
6. What is the difference between brk(0); and brk(0x55555551000); ?
7. If you see a write(2, "Hello!"); in strace, where is the programming trying to send the output to?
8. Draw a picture of a process in memory. Be sure to indicate the high and low addresses, the location of instructions, data, heap, stack, and shared libraries.
9. What is the difference between a section and a segment in an ELF file?
10. How many loadable segments does an executable ELF file typically have? What is in each of those segments?
11. What is a page of memory?