1.
   - Kernel state
   - Process ID
   - Program Registers
   - I/O Information
   - Stack Pointer
   - Frame Pointer

2.
   - `b) Write to a disk`
   - `c) Change processor mode from kernel to user`
   - `f) Reading system time`
   - `g) halting the processor`

   Example

   - `b) Write to a disk`
   - `c) Change processor mode from kernel to user`
   - `g) halting the processor`

3.
   - `b) write()`
   - `c) getpid()`
   - `e) fork()`
   - `h) sbrk()`
   - `i) mmap()`

4. If is not validated, then the kenrel could execute a system call not meant for the purpose. This could be exploited, and this is a huge security issue.

   User Pointer

   - Is a parameter that is passed to system call
   - Is stored in register (e.g. eax)
   - it tells interrupt descriptor table to activate a specific type of system call