

### Code Answers

1. Copyin() copies a block of memory of some length from user level address to kernel address.  
Copyout() copies a block of memory of some length from kernel address to user level address.
2. Refer to different sections in user stack (data, code, etc)
3. It is important to call vfs\_close() because before going to the user mode because kernel needs to make sure that it closes any file it was working on since in user mode, the process should not be able to access the file otherwise, the process can change the file and when there is a context switch again, the file will not be in the same state as earlier when kernel needs it. Hence, data sharing is avoided between the user mode and the kernel mode.
4. md\_usermode()
5. userptr\_t as a pointer to a one-byte struct, so it won't mix with other pointers.
6. It is important to change the implementation of kill\_curthread() because the OS needs to kill the process once the exception is raised and currently it prints off an error message and this is not enough to handle the exception.
7. Interrupts are disabled because while the kernel is handling the system call, an interrupt might occur and stop the kernel and might have to switch back to user mode from kernel mode.
8. Vop\_open()
9. Vop\_open, vop\_close, vop\_reclaim, vop\_read, vop\_write. No, same vnode.