

# COM S 352 Homework 1

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### Question 1

Interrupts are used to inform a program or process of an external process, typically a physical device controller telling the CPU that there has been an I/O operation. A Trap, However, is an interrupt triggered by software (i.e. exceptions, requests from other programs). Yes, traps can be generated intentionally such as trying to access invalid memory or arithmetic exceptions.

### Question 2

The two modes of a CPU are User mode and Kernel mode. The system privileges are increased when Kernel mode is in use because Kernel mode will allow more control over the system. This dual operation will help protect the user and the system from programs not launching correctly and/or being malicious. The reason to distinguish the two is to know where Interrupts should be used. The system will produce interrupts in user mode then switch to Kernel mode. Kernel mode can only run privileged instructions.

### Question 3

Clear memory  
turn off Interrupts put CPU in Kernel mode

### Question 4

### Question 5

### Question 6

### Question 7