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CIS 452-10

Homework 1:

1. **Question 1.19**
   * What is the purpose of interrupts?

The purpose of interrupts is to signal to the processor that an event or a program of higher priority needs the processor more and allows for branches in the fetch and execute cycle of the processor, which the interrupt handler will handle.

* + What is the main difference between a trap and an interrupt?

The main difference between a trap and an interrupt is that a trap is used for errors in program execution which are generally from software and are

* What is contained in the /arch subdirectory of the Linux source code?

It holds the settings for a variety of processors and their types. Apparently used for optimization purposes.

* How are these contents used?

They are held as Booleans that depend on the X86\_32 processor type. It also determines if certain processors are compatible with certain hardware. The documentation says that this processor type is used for optimization.

synchronous, while an interrupt is asynchronous and is usually triggered by hardware.

* + Trap can be generated intentionally by a user program. For what purpose?

A trap can be generated to serve the purpose that the process can be continued without the loss of the entire program.

1. **Question 2.5**
   * What is the purpose of the command interpreter?

It reads commands from the user or from a file and executes them via system calls.

* + Why is it usually separate from the kernel?

It is separate from the kernel because the command interpreter is subject to change throughout the course of use, and the kernel is essentially the “core” of the Operating System.

Operating Systems Concepts Essentials, 2nd Ed.; Silberschatz, Galvin, Gagne; Wiley, 2014.