Assignment #9 -Chapter 10

You must provide detailed answers to receive full credit (show your work)!

Text Book page 630-631

2. In the sidebar concerning watchdog timer engineering decisions, we stated that rebooting an embedded system typically takes less time than rebooting a personal computer. Why do you think that this is so? A personal computer often is comprised of embedded systems, thus loaded a host of embedded systems would take longer than loading a single embedded system unless there was a system that loaded systems of embedded systems faster. This may not be true when dealing with an embedded system that is more complex than a personal computer.

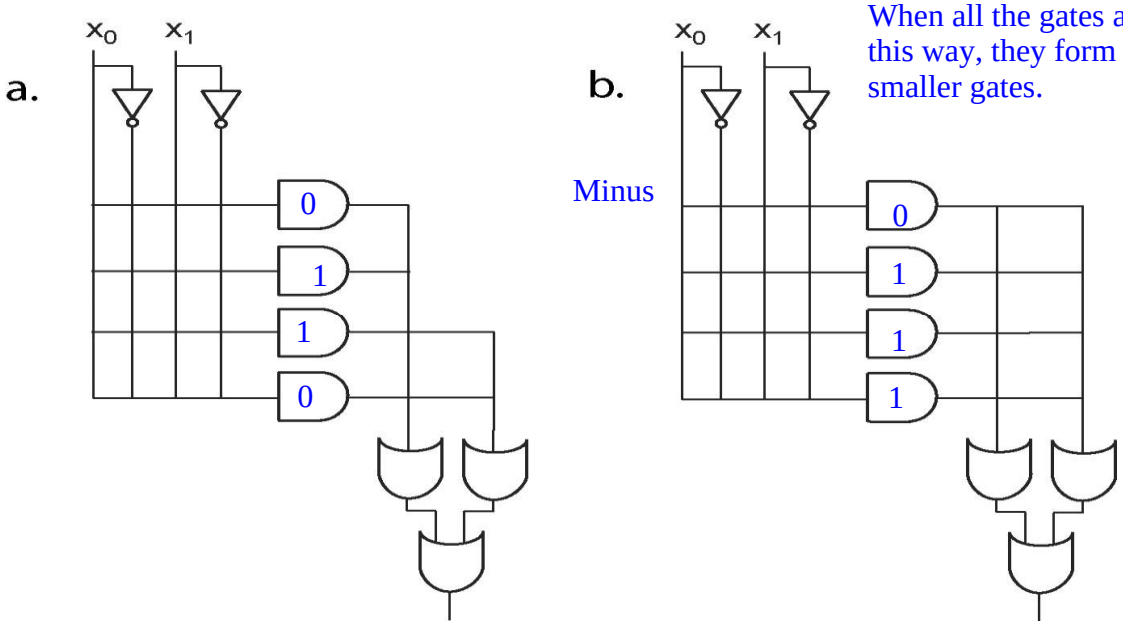
3. a) Show how a two-input XOR gate can be implemented in the PAL shown below.

b) Show how a two-input NAND gate can be implemented in the PLA shown below.

When all the gates are combined together in this way, they form 1 giant gate made out of smaller gates.

inverse

Minus



8. Explain interrupt latency. How is it related to context switch time?

Interrupt latency is the time that elapses before an interruption in data processing is solved. It can slow down context switch time for as long as it was being tended to before it was solved.

9. In an ideal embedded operating system, would all non-kernel threads always execute at lower priority than interrupts?

This would depend of if a condition of a system being ideal was that certain processes would always be tended to before other processes. Otherwise, tending to a process would depend on how important the process was to system function, and how long it would take to implement that process.