Lecture 1, Jan 9, 2024

CPU Selection

- What do we need to look for when selecting a CPU?
    - Speed: clock rate, CPI (cycles per instruction), instruction length and complexity
    - Interfacing: GPIO count, I/O peripherals, etc
    - Other considerations: power consumption, size, in-system upgrade, hardware design features, cost
- There are also criteria external to the processor itself:
    - Design process: tools (assembler, debugger, compilers, code generators, etc), code base, training, availability
    - Production: availability (supply chain considerations), cost, suppliers, product maturity and lifetime
    - Design for future: in-system upgrade, replacement, failure rates and modes