

## Pre-lab for Lecture 04

**Preamble:** The 8255 PC Interface card is an ISA bus-based card having 24 digital input/output lines (three 8-bit ports) and was introduced in MEM639. For DOS, compilers like QuickBasic or Turbo C have port-mapped I/O statements; input and output are achieved with statements like `value = inportb(portNumber)` and `outportb(portNumber, decimalValue)`. Unfortunately, Visual Basic does not have similar statements. In Week 4, dynamically linked libraries will be introduced to overcome this limitation.

**Pre-lab:** Partner with another student and test the assembled 8255 card under DOS

- Digital Output: see the MEM639 course page and redo week04Lab.pdf (LED.C)
  - Digital Input: see the MEM639 course page and redo week09Lab.pdf (DIP.C)
1. Make a crimped cable for connecting the headers between the 8255 Terminal Expansion Board (TEB) and your LED and DIP circuit.
  2. LEDs, protoboards for the LED and DIP circuit, DIP switches, resistors etc. are available in the UG Lab basement.
  3. If you still have your working LED and DIP switch circuits from MEM639, you don't have to rebuild these circuits.
  4. The Turbo C DOS compiler link is listed on the MEM639 course web page
  5. Demo your 8255, LED and DIP switch circuits for next week