EE241 Lab Kit   For Spring 2018   Draft   Jan 3 2018

2   74LS00N quad NAND* (students should already have one from EE283)
1   74LS02N quad NOR
1   74LS03N quad NAND open collector
1   74LS04N hex inverter* (students should already have one from EE283)
1   74LS08N quad AND* (students should already have one or two from EE283)
2   74LS10N triple NAND
0   74LS11N triple AND* (students should already have two from EE283)
2   74LS20N dual NAND
1   74LS27N triple NOR
1   74LS30N NAND
1   74LS42N decimal decoder
0   74LS47N seven segment decoder* (students should already have 3 from EE283)
2   74LS74N dual D edge triggered latch
1   74LS75 or 74LS175 quad D latch (whichever is cheaper)
1   74LS86N quad XOR
2   74LS93N or 74LS293N 4 bit asynchronous counter (whichever is cheaper)
1   74LS107N or 74LS109, 74LS112 or some other JK latch, (whichever is cheaper)
1   74LS123N dual 1-shot
1   74LS138N 1 to 8 demux / decoder
1   74LS139N dual 1 to 4 decoder / demux
1   74LS153N dual 4 to 1 mux
1   74LS193N synchronous 4 bit binary counter
1   74LS244N octal bus driver
1   74LS283N four bit adder
1   74LS373N octal tri-state latch
1   GAL16V8 25ns GAL
1   27C256 or similar UVEPROM (any size, whatever's cheapest – may be pull-outs)
1   4MHz full can TTL oscillator (need to be sure pins are long enough)
4   PN2222 or PN2222A NPN general purpose transistors (or similar)
4   PN2907 or PN2907A PNP general purpose transistors (or similar)
8   1N4148 signal diodes (or similar)
8   Red LED's
4   Yellow LED's
4   Green LED's
3   7 segment common anode display (for "vertical" mounting on breadboard)* (have 3)
either: (different for different students – for Lab 5)
        2 extra 74LS03's OR 1 extra 74LS153 OR 1 extra 74LS244
either: (different for different students – for Lab 2)
        7400N or 74ALS00N or 74C00N or 74F00N or 74HCT00N (other?)
10   1.0K Ohm ¼ W resistors
1   1000 uF, 6.3V or more electrolytic capacitors (typically radial –cheaper)* (have one)
4   4.7 uF (or anything 2.2uF up) 16V Tantalum capacitors* (should have 2 from EE283)
1   DIP switch, 9 or more positions (legs need to be long enough for breadboard!)
2   SPST N.O. pushbuttons (typically red button)
1   SPDT pushbutton (if available at acceptable price)
1   Big solderless breadboard
1?   5V power supply* (at least 1A, needs overcurrent protection, if EE283 supply was <1A)
Note: Plan to use FPGA boards with Byteblaster for Traffic Light Controller lab – not in kit