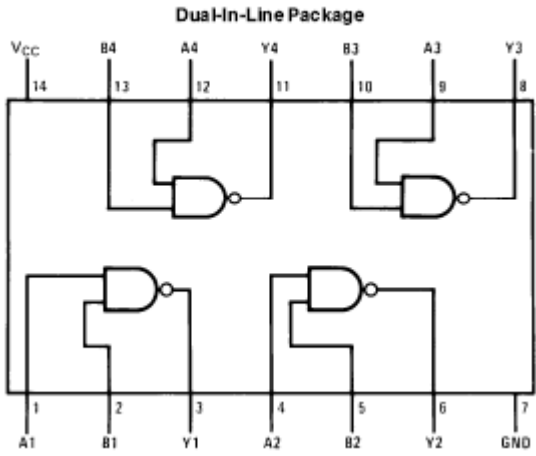


Here are some of the basic logic IC's we'll be using in class. The following link: <https://whatis.techtarget.com/definition/logic-gate-AND-OR-XOR-NOT-NAND-NOR-and-XNOR> provides a basic explanation of how logic gates work.

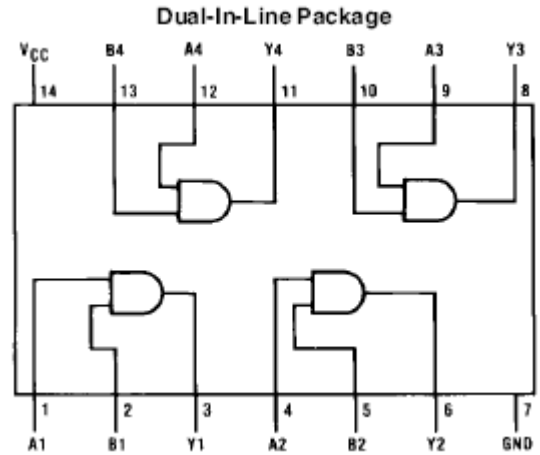


7400, 2 Input Quad NAND gate

$Y = \overline{AB}$

Inputs		Output
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

H = High Logic Level
L = Low Logic Level

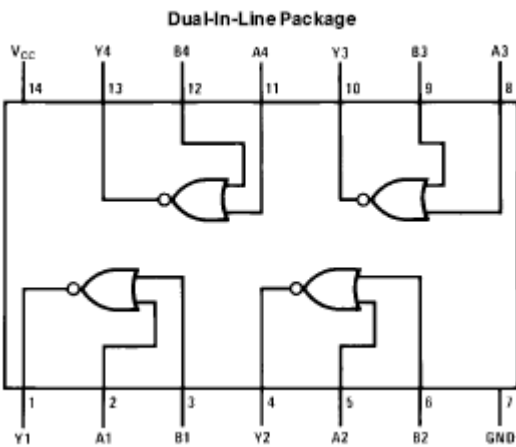


7408, 2 Input Quad AND gate

$Y = AB$

Inputs		Output
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

H = High Logic Level
L = Low Logic Level

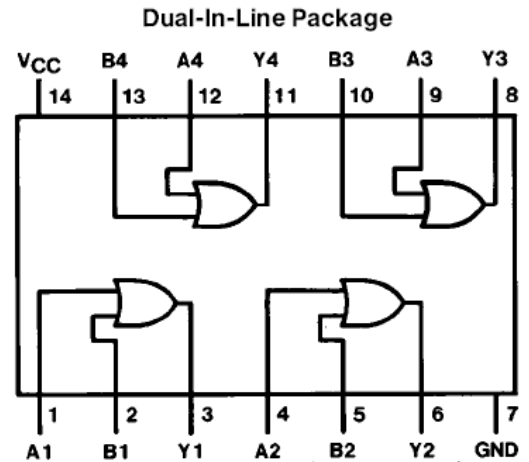


7402, 2 Input Quad NOR gate

$Y = \overline{A + B}$

Inputs		Output
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

H = High Logic Level
L = Low Logic Level

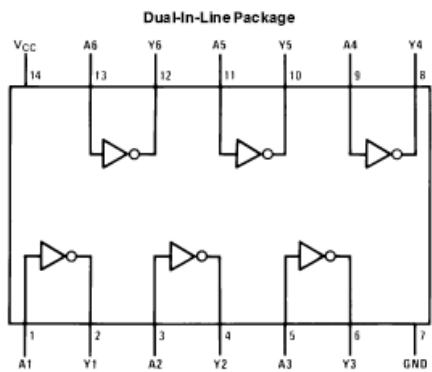


7432, 2 Input Quad OR gate

$Y = A + B$

Inputs		Output
A	B	Y
L	L	L
L	H	H
H	L	H
H	H	H

H = High Logic Level
L = Low Logic Level



7406, Hex Inverter

$Y = \bar{A}$

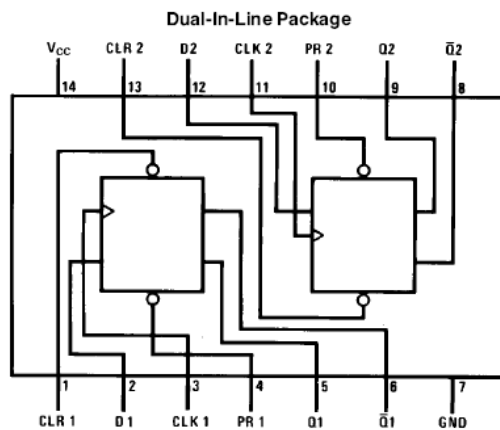
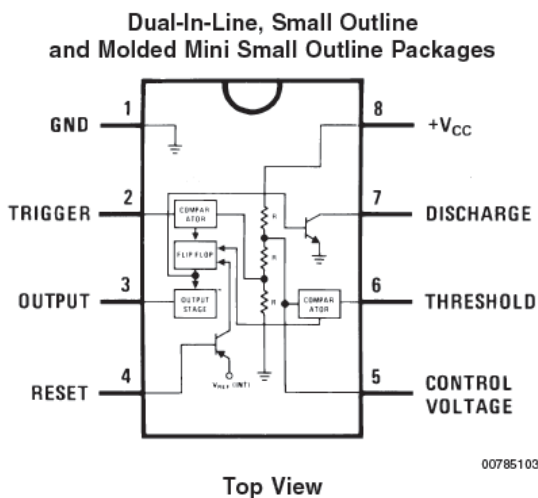
Input	Output
A	Y
L	H
H	L

555 Timer

<https://www.fairchildsemi.com/datasheets/LM/LM555.pdf>

7474 Dual D Flip Flop

<http://ecee.colorado.edu/~mcclurel/dm74ls74a.pdf>

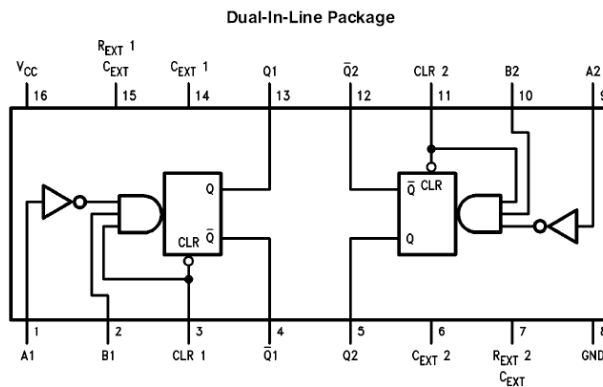
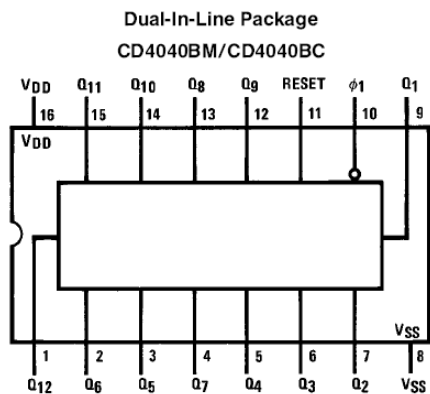


4040, 12 bit ripple counter

<http://ecee.colorado.edu/~mathys/ecen1400/pdf/references/CD4060BC.pdf>

74123, Dual one-shot multivibrator

<http://ee-classes.usc.edu/ee459/library/datasheets/DM74LS123.pdf>



Next week we'll wire up an oscillator using the 555 timer and gate the output on and off with an AND gate. We'll also use the 74123 to produce a specific delay and pulse width. Ex: configure the 555 timer to oscillate at about 1KHz. Send the 555 output to the 74123 to delay each pulse by 0.1ms and then produce a 0.3ms pulse.

555 timer output



74123 output #1



74123 output #2

