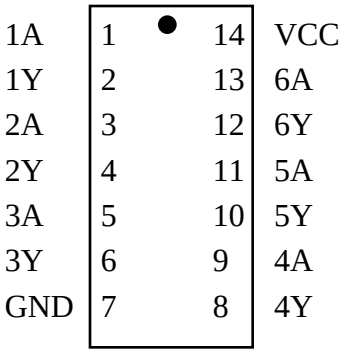
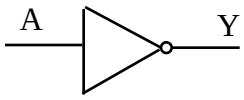
ECE 207L - FIRST ORDER RC CIRCUITS - LAB 12
BASIC OPERATION OF LOGIC INVERTERS

FALL 2003 **A.P. FELZER**

OBJECTIVE

The objective of this lab is to introduce 7404 logic inverters with pinouts as follows





with V_{CC} = 5 volts

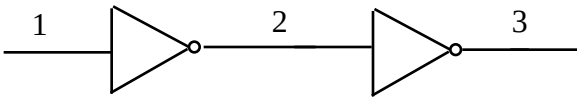
LAB

1. Measure the output of Inverter 1 when the input is Low (0 volts) and then when its High (5 volts). Put your results in a Table.

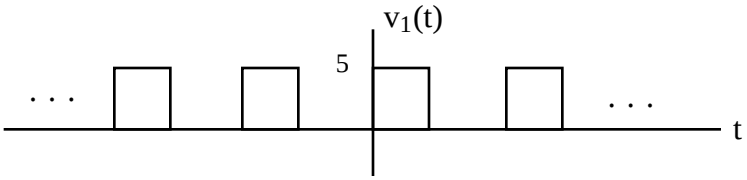
2. Find the largest the input of Inverter 1 can be and its output not fall below 4 volts.

3. Find the smallest the input of Inverter 1 can be and its output not go above 1 volt.

4. Sketch the timing diagrams you see on the scope for V_1, V_2 and V_3 of the following cascade connection of two inverters



with a pulse train input as follows



5. Build a circuit of six inverters connected in cascade. Then sketch what you see on the scope for the pulse train input and at the output of the last inverter. Do you see any time delay.