Homework Assignment 7  
Worksheet: Seven Segment Decoder

Homework

Cogdell: 3.8, 3.10, 3.15, 3.30

Notes

1. The subcircuit labelled 2bit in the circuit above translates a 2-bit binary number (0-3) into signals appropriate for driving a 7-segment display.

2. Each of the seven lines of the 7-segment display is connected to an individual LED which lights when the its value is a TTL HIGH.

3. In practice, the LED is connected to +5V though a 330Ω resistor. The other end of the LED is then connected to the output of a gate. When the gate’s value is LOW, the LED will light.

Procedure

1. Write a truth table for the four possible switch settings. You may want to look at the EWB help section to determine how the 7-segment LED works.

2. Design a circuit that reproduces the 2-bit circuit that you have designed.

3. Test the circuit in EWB to ensure that your circuit works.