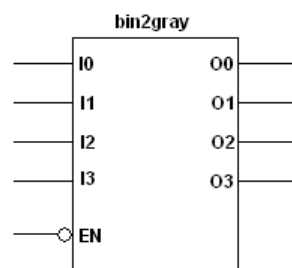


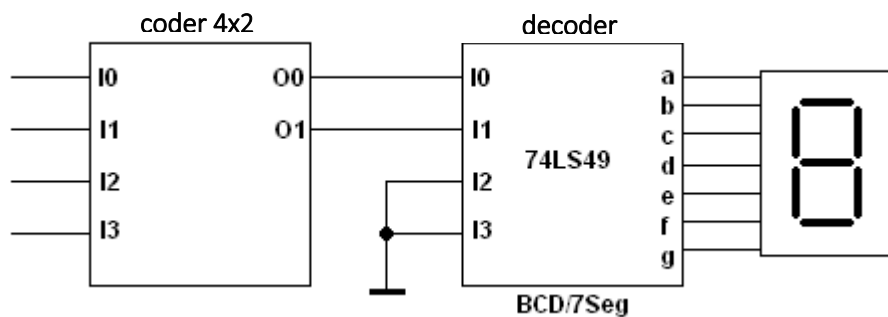
## Lab. Script 6

### Coders & Decoders

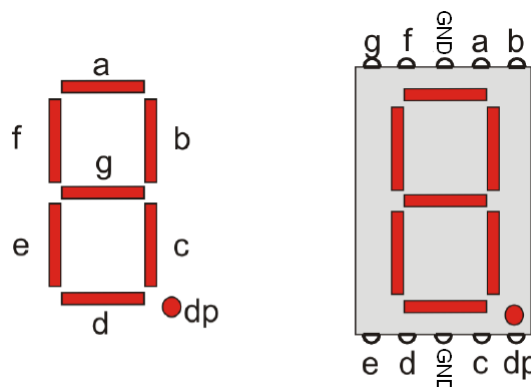
- Design a digital coder that convert natural binary code to Gray code. The circuit should be designed with an active low "Enable" input in order to maintain the output to 0000 if inactive.



- Design a 4 lines decoder with priority. Afterwards, implement and verify the functioning of the following circuit:

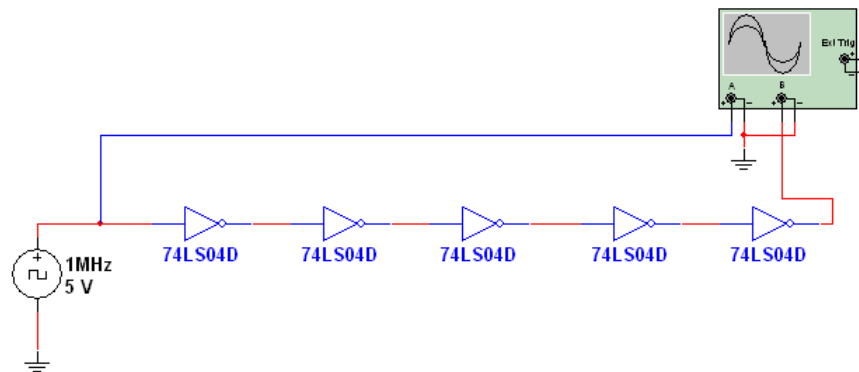


OBS: Read carefully the decoder BCD/7Segments 74LS49 data sheets.



## Propagation delays

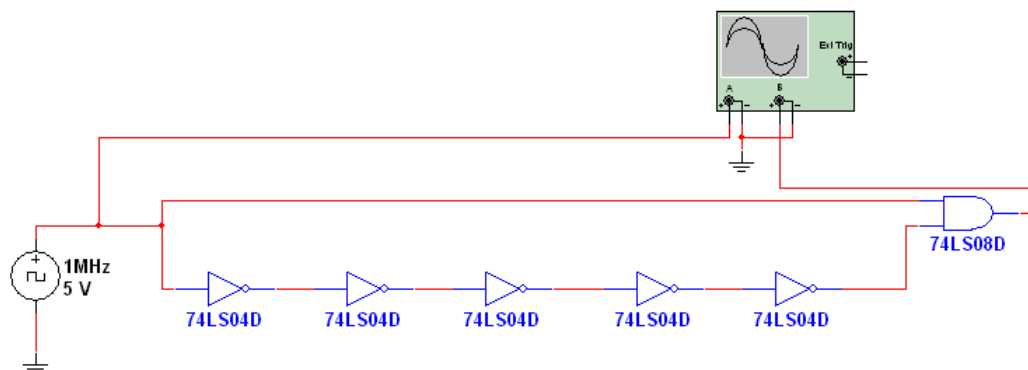
- Implement, in the breadboard, the following circuit and perform the connections to the signal generator and to the oscilloscope as showed.



Calculate the mean delay time value of the NOT gates. Compare with the value presented by the manufacturer in the data sheets.

## Static Errors

- Build the following circuit:



Verify the occurrence of a static error. Which is the theoretical logic value predicted into the AND gate output? Based on the observed in practice what is the conclusion to draw?