LE2.3

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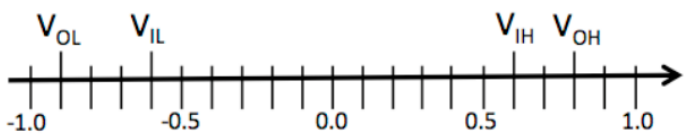
LE2.3.1: Noise margins

2/2 points (ungraded)

A new family of logic devices uses signaling voltages in the range −1V to +1V. One proposed assignment of our voltage specification is shown below. Observe $V_{OL} = -0.9$, $V_{IL} = -0.6$, $V_{IH} = 0.6$, $V_{OH} = 0.8$.



The *noise immunity* of a signaling specification is the smaller of the two noise margins. What is the noise immunity for the signaling scheme proposed above? Please give a numeric answer to the nearest .1 volt. If it is impossible to tell what the noise immunity is, write "NONE".

Noise immunity (V): 0.2 ✔

The output voltage of an inverter is measured to be 0.9V in the steady state. The inverter is a combinational device obeying the signaling specification shown above. What is the best characterization of the steady-state input voltage V_{IN} of the inverter when the measurement was made? Please give a numeric answer to the nearest .1 volt. If it is impossible to characterize V_{IN}, write "NONE".

$V_{IN}\ (V) <$ 0.6 ✔

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- For the second question, the answer is wrong — 6
  For the second question, the answer is wrong. It should be -0.6 instead of 0.6.
- VIN? — 13
  Hello, For an inverter with 0.9v **stady state** output which is considered logically high, then I would expect the input to be logically...
- Really struggling with this exercise — 4
  Hello! I am kind of struggling with the basis of the theory behind this. I can't give the answers to the questions since I am not allowed...
- V_IN in case of same static discipline for the circuit — 2
  > The output voltage of an inverter is measured to be 0.9V in the steady > state. The inverter is a combinational device obeying the ...
- Noise margins<staff> — 2

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Calculator