LE4.2

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LE4.2.1: AND of many inputs

3/3 points (ungraded)

Suppose we wanted to build a circuit to compute the AND of 1024 separate inputs. There's good news and bad news. The bad news is that we only have 2-input AND gates (called AND2) to use when implementing the circuit. The good news is that we have as many AND2 devices as we need.

The AND2 device has a contamination delay t_{CD} of 1 ns and a propagation delay t_{PD} of 4 ns.

What is the minimum number of AND2 devices needed to implement the circuit?

Minimum number of AND2 devices needed: 1023 ✔

Considering all possible implementations, what is the smallest achievable t_{CD}?

Smallest achievable t_{CD} (in ns): 1 ✔

Considering all possible implementations, what is the smallest achievable t_{PD}?

Smallest achievable t_{PD} (in ns): 40 ✔

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Contamination Delay? 6
How is contamination delay calculated? I must have missed this during the videos.

Contamination Delay Calculation regarding shortest path ? 6
Hello , In the lecture when considering the development in circuits with the help of boolean expressions we are thinking of logical bin...

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