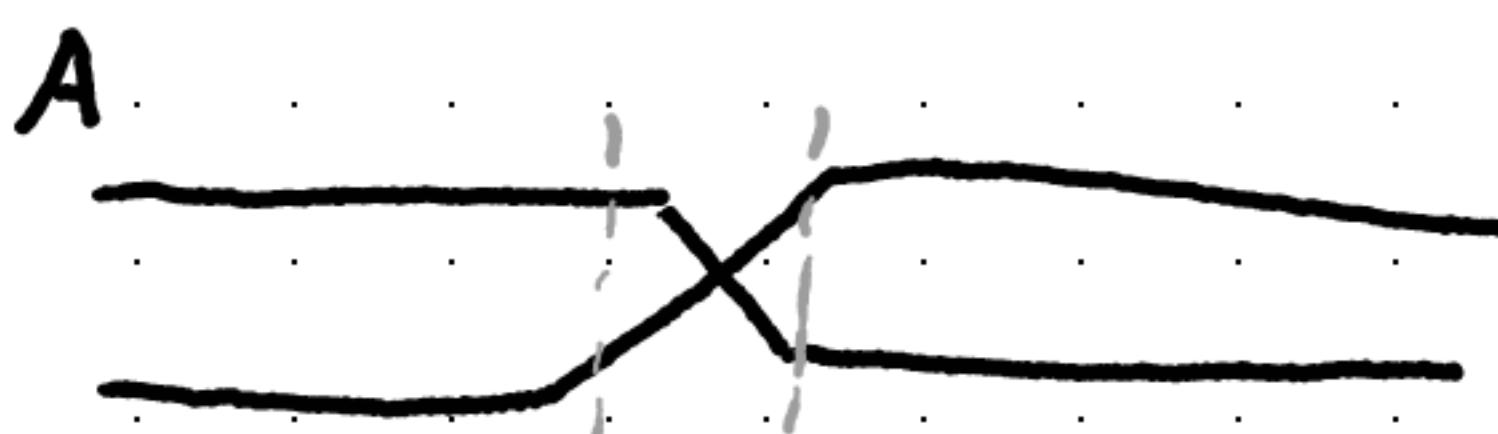
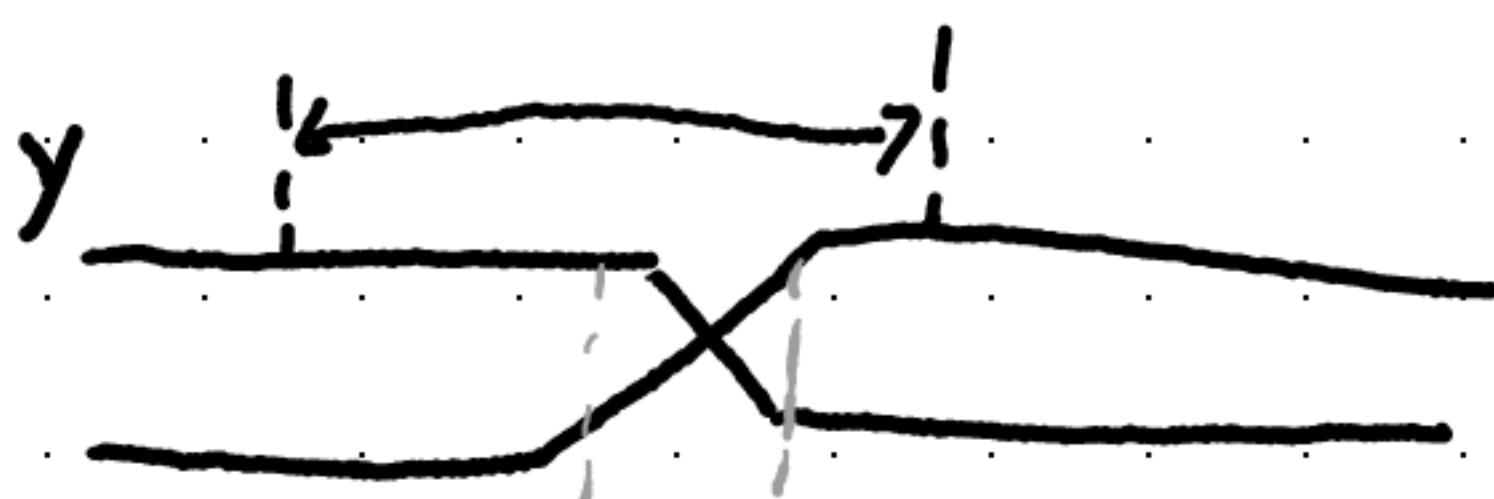


Hazards

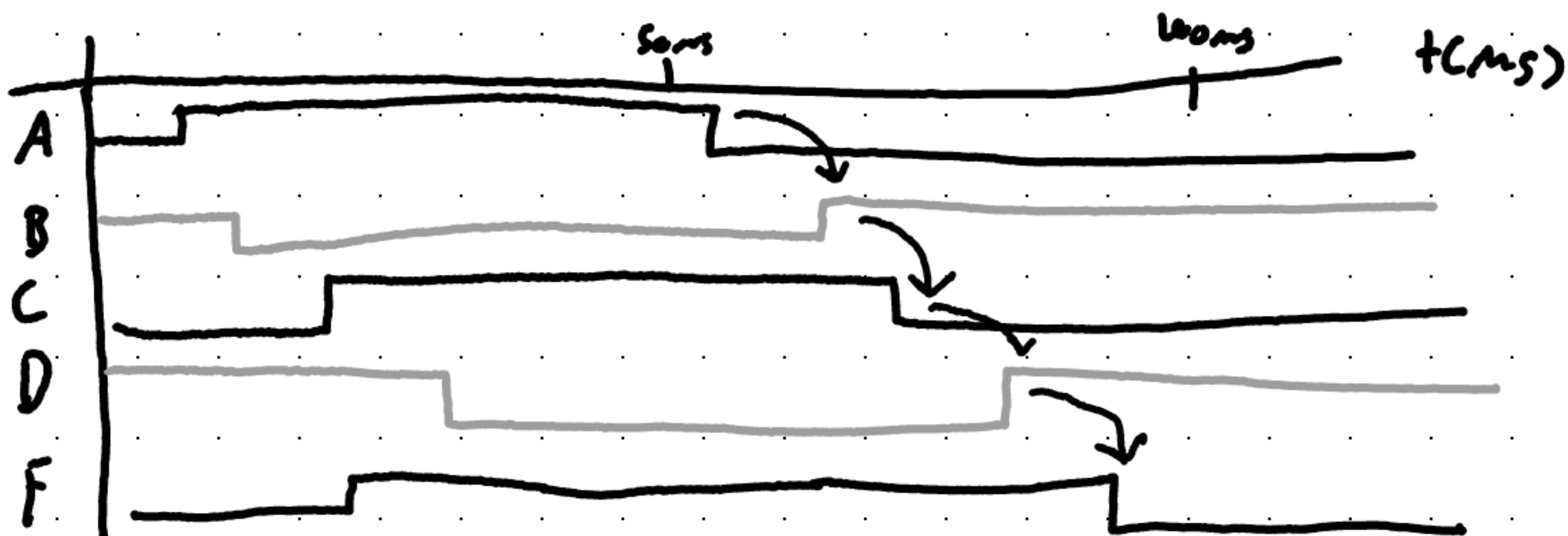
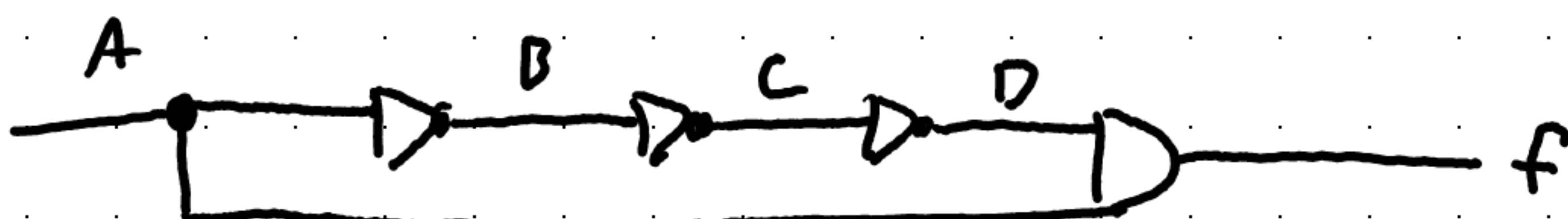


Propagation Delay.

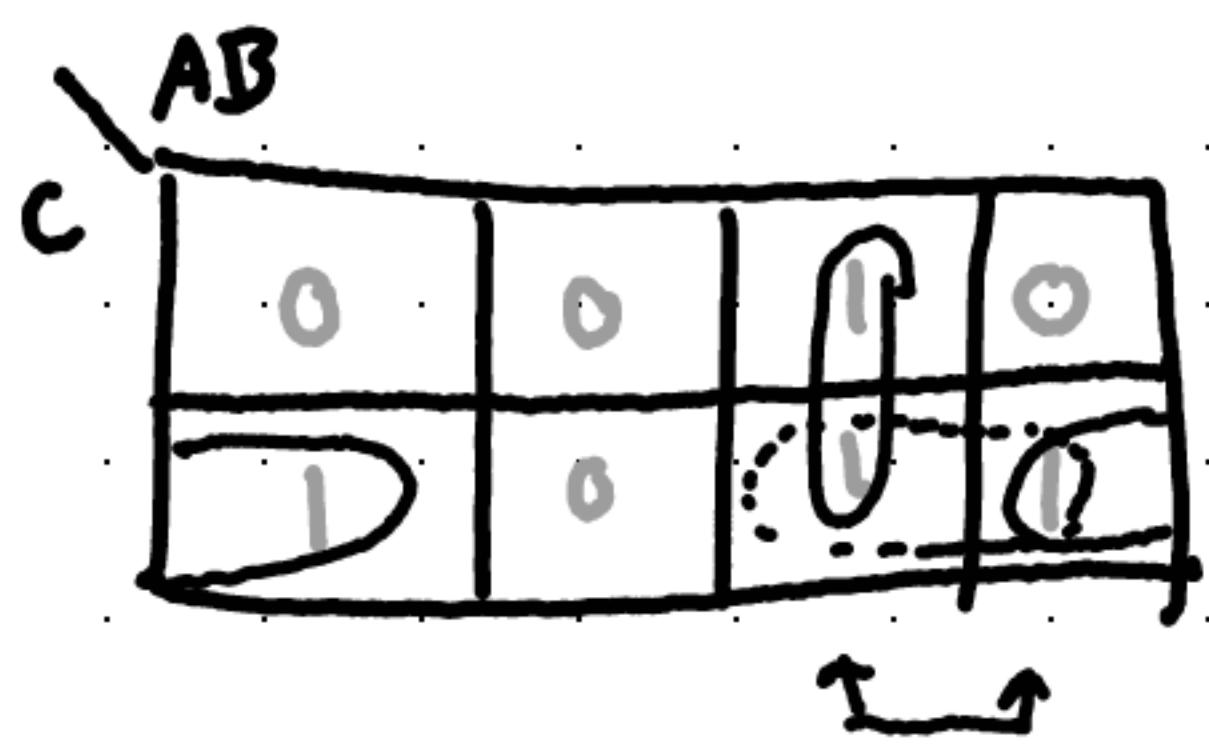
The FET's or ~~or~~ transistors to change after a voltage has been applied.



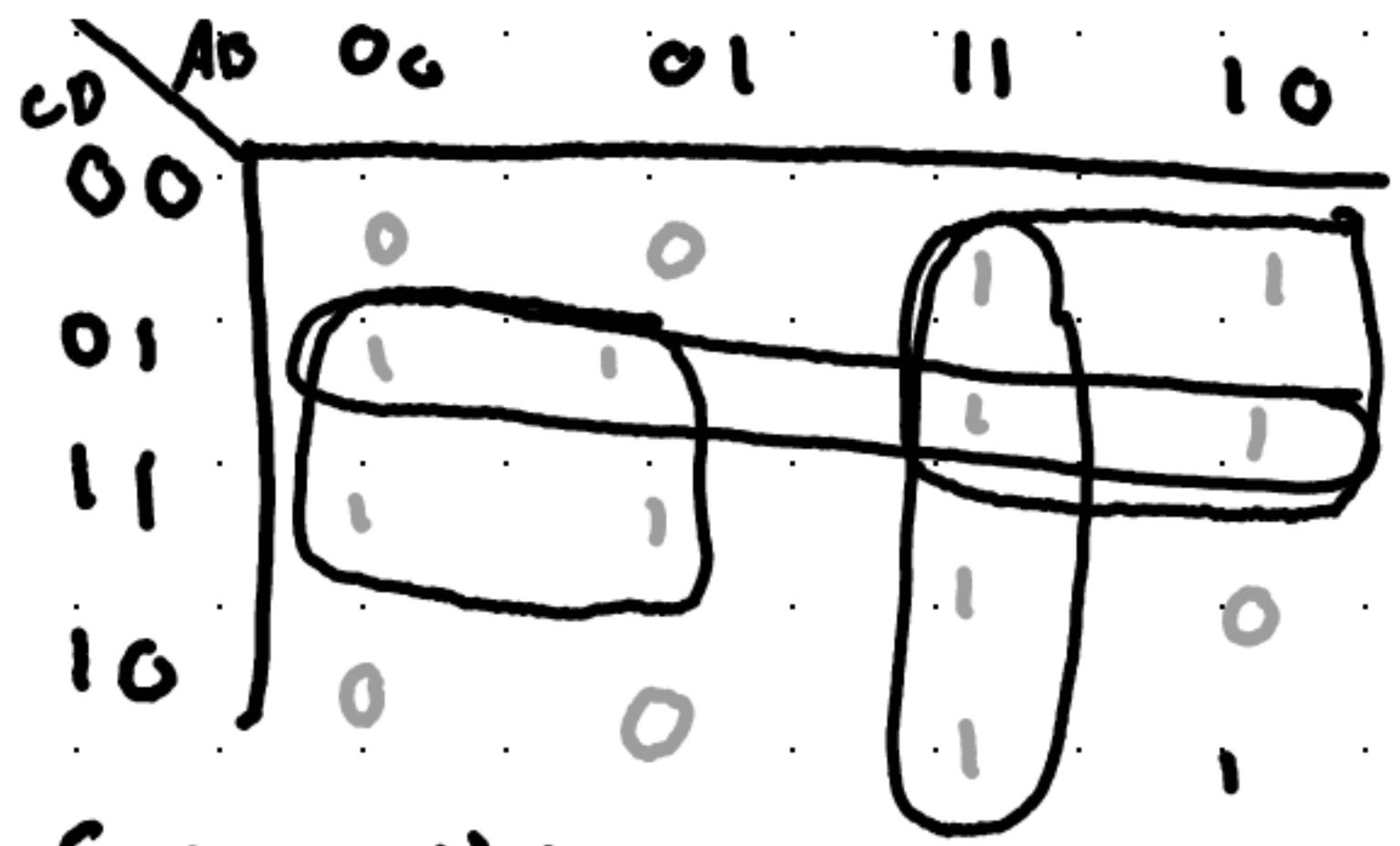
We can also have IO delay



When creating a circuit, you must do extra steps to ensure a lack of hazard.

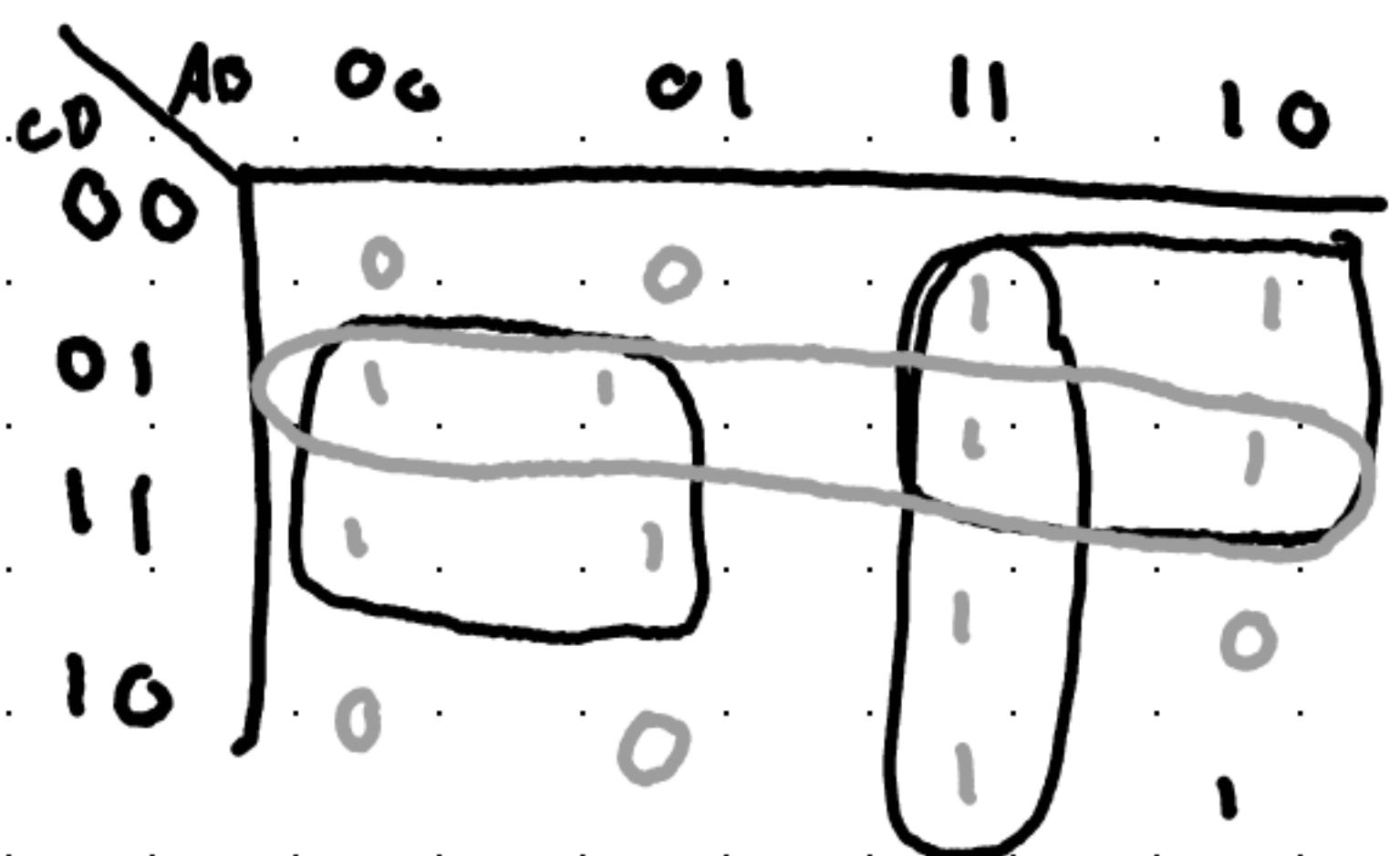


We can add these two in the K-map to make the circuit hazard free. However, this adds complexity, and cost to a design.



SOP (1's)

$$f = \bar{A} \cdot D + \bar{C} \cdot D + A \cdot B + A \cdot \bar{C}$$



• Essential

Pulse Implicant

• Inessential

Pulse Implicant