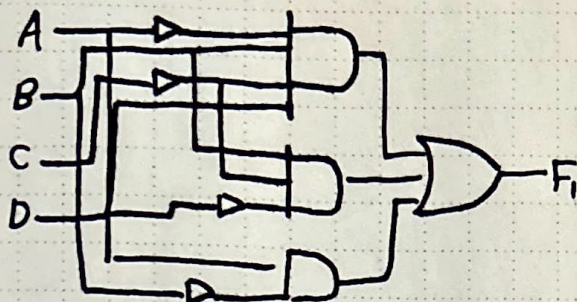


Sum of Product (SOP) Logic Circuit Design Procedure

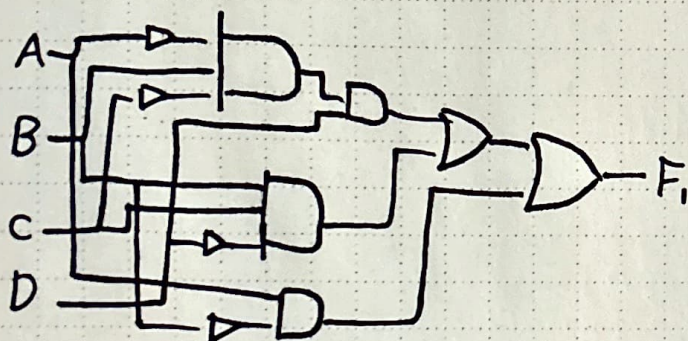
1. Implement each minterm in the logic expression using AND gates with the same number of inputs as variables in the minterm
2. OR together the outputs of the AND gates to produce the logic expression
3. If necessary, gates can be cascaded to create gates with more inputs

Sum of Product (SOP) example 1

$$F_1 = \bar{A}\bar{B}\bar{C}D + B\bar{C}\bar{D} + A\bar{B}$$



Example 2



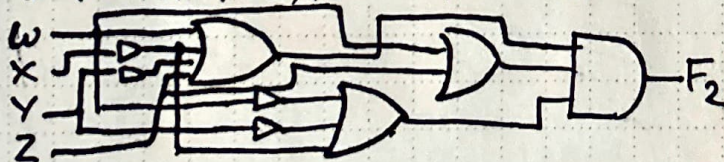
Product of Sums (POS) Procedure

Design Procedure

1. Implement each maxterm in the logic expression with an OR gate of the same number of inputs as there are variables in maxterms
2. AND together the outputs of the OR gates to produce the logic expression
3. If necessary, gates can be cascaded to create gates with more inputs

POS Example 1

$$F_2 = (W + \bar{X} + \bar{Y} + \bar{Z})(\bar{W} + X + \bar{Y})(W + \bar{Z})$$

Signature: *[Signature]*Date: *11/13/21*

Team Members:

Witness:

Date:

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