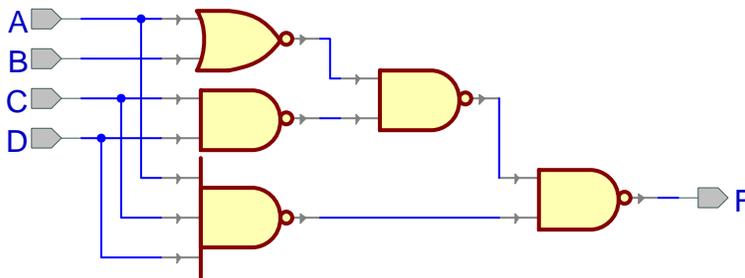# CSE370 Quiz 1 (21 January)

Name _____*Solution*_____

Given the following schematic:

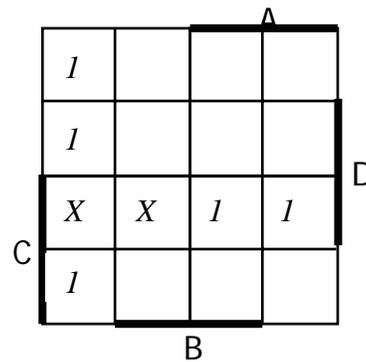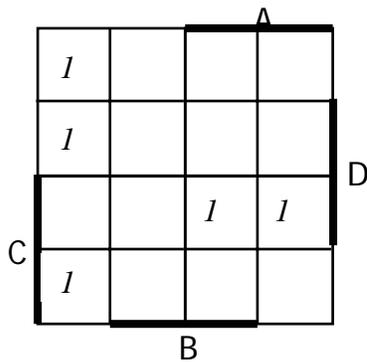Write down the Boolean expression corresponding to F (in any form).

$$\{\,[\,(A+B)'\,(CD)'\,]'\,(ACD)'\,\}' \;=\; (A+B)'(CD)' + ACD \;=\; A'B'(C'+D') + ACD \;=\;$$
$$A'B'C' + A'B'D' + ACD$$

Write the expression in sum-of-products form (Σ notation).

Σm (0, 1, 2, 11, 15) - easier to get after filling in the K-map

Fill in the K-map below on the left.

We also know that this function is a don't care for the cases where A'CD is true. Fill in the modified K-map above on the right.

Find a minimum sum-of-products expression for this incompletely specified function.

(A'B') + (CD)

Circle the essential prime implicants in your expression above.