

Solution to Quiz 5

Name (Last, First) _____

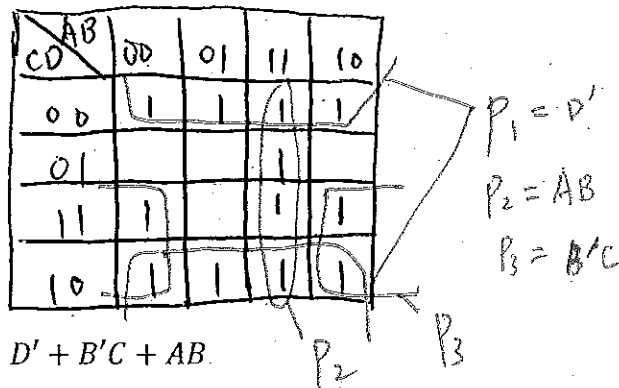
(10 points) Problem 1:

- a). (5 points) Plot the following function on a Karnaugh map. (Do not expand to minterm form before plotting.)

$$F(A, B, C, D) = BD' + B'CD + ABC + ABC'D + B'D'$$

- b). (5 points) Find the minimum sum of products.

Sol: (a) Karnaugh-map



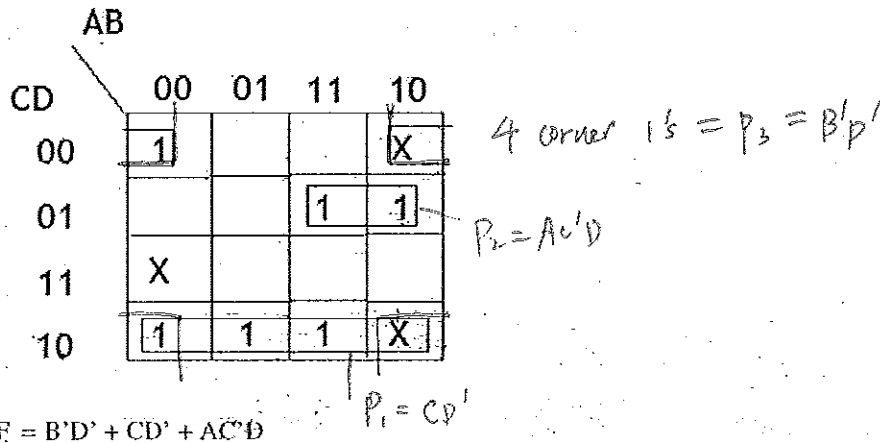
(b) $F = D' + B'C + AB$

(10 points) Problem 2: Find the minimum sum-of-product expression for

$$F(A, B, C, D) = \sum m(0, 2, 6, 9, 13, 14) + \sum d(3, 8, 10)$$

- a) (5 points) Plot the function on a Karnaugh map.
 b) (5 points) Find the minimum sum of products.

Sol:



$F = B'D' + CD' + AC'D$