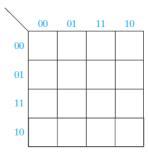
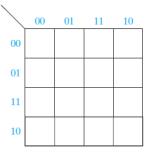
Homework Unit 5

1. Find a minimum sum-of-products and a minimum product-of-sums expression for the following function:

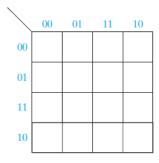
$$F(A, B, C, D) = \prod M(0, 2, 10, 11, 12, 14, 15) \cdot \prod D(5, 7)$$





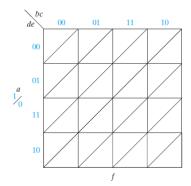
2. Find the minimum product-of-sums expression for the following function and underline the essential prime implicants in your answer.

$$F(w, x, y, z) = \prod M(0, 2, 4, 5, 6, 9, 14) \cdot \prod D(10, 11)$$



3. Find the minimum sum-of-products expression for *f*. Underline the essential prime implicants in your expression.

$$f(A, B, C, D, E) = \sum m(0, 2, 3, 5, 8, 11, 13, 20, 25, 26, 30) + \sum d(6, 7, 9, 24)$$



4. Find all of the prime implicants for the following functions F and G. (F and G have seven prime implicants.)

