تمرین 4K-map

simplify the expressions using K map

F = AB'C'D+ ABC'D'+ A'CD'+ A'C'D'+ B'C'D'

F= BC'+ A'B+ BCD'+ A'B'D+ AB'C'D

F=∑ m (1, 4, 6,9,10,11,14,15)

F=∑ m (1, 2,3, 4,5, 6, 7,9,10,11,13,14,15)

F= A'CD+ ABC+ AC'D+ A'BC'

F = A'B'+ AC'+ B'C'

simplify the expression using K map in SOP and POS forms. Implement the simplified expression using NAND gates only:

F=∑m (1, 5, 6, 12, 13, 14) + d(2, 4)

F = ∑m (1, 3, 4, 7, 9, 11, 12, 14) + d (2, 6, 13)

Consider two binary numbers represented as A1A0 and B1B0. design a logic circuit whose output will be 1 when A1 A0 is equal to B1B0.

Identify the function Y = ∑m (1, 2, 4, 7, 8, 11, 13, 14) in simplest form and implement using only three logic gates.

Using k-map method, reduce Y = (a, b, c, d) = ∑m(1,3, 13, 15) +d(8, 9, 10,11) and implement using NAND gate only.