



Assignment D

1) Simplify the following Functions using K-Map

- $F(A, B, C) = \sum(0, 1, 5, 7)$
- $F(A, B, C) = \sum(1, 2, 3, 6, 7)$
- $F(A, B, C) = \sum(0, 2, 3, 4, 6)$
- $F(A, B, C, D) = \sum(0, 2, 4, 5, 6, 7, 8, 10, 13, 15)$
- $F(A, B, C, D) = \sum(4, 6, 7, 15)$

2) Simplify the following Functions using K-Map

- $F(x, y, z) = \prod(0, 1, 3, 4)$
- $F(w, x, y, z) = \prod(2, 3, 6, 7)$
- $F(w, x, y, z) = \prod(1, 3, 5, 7, 13, 15)$

3) Find the minterms of the following Boolean expressions by first plotting each function in a map:

- $F(A, B, C, D) = C'D + ABC' + ABD' + A'B'D$
- $F(A, B, C, D) = A'B + A'CD + B'CD + BC'D'$

4) Simplify the following Functions using K-Map

- $F(A, B, C, D) = A'B'C'D + AB'D + A'BC' + ABCD + AB'C$
- $F(A, B, C, D) = A'B'C'D' + BC'D + A'C'D + A'BCD + ACD'$

5) Simplify the following Functions together with the don't care conditions

- $F(A, B, C, D) = \sum(1, 3, 5, 7, 9, 15)$, $d(A, B, C, D) = \sum(4, 6, 11, 12, 13)$