

Truth Tables, Minterms and Maxterms: Problems

1. Write the truth table for each of the following logic functions:

(a) $F = A \cdot B + A \cdot B' \cdot C' + A' \cdot B \cdot C$

(b) $F = A \cdot B' + B' \cdot C + C \cdot D' + C \cdot A'$

(c) $(W \cdot Z)' \cdot (X' + Y')'$

(d) $F = (((A + B')' + C)' + D)'$

(e) $F = A' \cdot B \cdot (C \cdot B \cdot A' + B \cdot C')$

2. Write the canonical sum and product for each of the following logic functions:

(a) $F = \sum_{X,Y}(1, 2)$

(b) $F = \prod_{A,B}(0, 1, 2)$

(c) $F = \sum_{X,Y,Z}(0, 3)$

(d) $F = \prod_{A,B,C}(1, 2, 4)$

(e) $F = \sum_{A,B,C}(1, 2, 4, 6)$

(f) $F = \sum_{A,B,C,D}(1, 2, 5, 6)$

(g) $F = X' + Y \cdot Z$

(h) $F = V + (W \cdot X')'$

3. For each of the functions from exercise 1, write the canonical sum and product, the minterm list and the maxterm list.