

1. Four chairs (A,B,C,D) are placed clockwise around a table. Each chair may be occupied (1) or empty (0). Fill in a truth table for a function that is 1 iff there are no adjacent empty chairs. Express the function as both a summation of minterms and a product of Maxterms.
2. Given the following function: $F(X,Y,Z) = \sum m(1,2,3,6)$. Obtain a minimized sum-of-products (SOP) expression using a Karnaugh map.
3. Given the following function: $F(A,B,C,D) = \sum m(1,4,6,9,10,14) + \sum d(0,2,7)$.
 - a. Obtain a minimized SOP expression using a Karnaugh map.
 - b. Obtain a minimized SOP expression using the Quine-McCluskey method.