Answer on Question # 43500, Engineering, Other

Task: Simplify the following Boolean function:

F = A'C + A'B + AB'C + BC, using K-map?

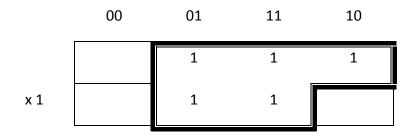
Solution:

So, we must do for simplifiing the following Boolean function:

- 1. Construct a K-map.
- 2. Find all groups of horizontal or vertical adjacent squares that contain 1.
 - a. Each group must be either rectangular or square with 2ⁿ squares.
 - b. Each group should be as large as possible.
 - c. Each **1** on the K-map must be covered at least once. The same 1 can be included in several groups if necessary.
 - d. Nonessential groups are omitted. (A nonessential group does not contain a 1 that is not covered by any other group)
 - e. Adjacency applies to both vertical and horizontal borders.
- 3. Translate each group into a product term by eliminating any variable whose value changes from cell to cell.
- 4. Sum all the product terms.

			В	
0	x'y'z'	x'y'z	x'yz	x'yz'
A 1	xy'z'	xy'z	xyz	xyz'
		С		

F = A'C + A'B + AB'C + BC:



F = C + A'B

Answer: F = C + A'B.