

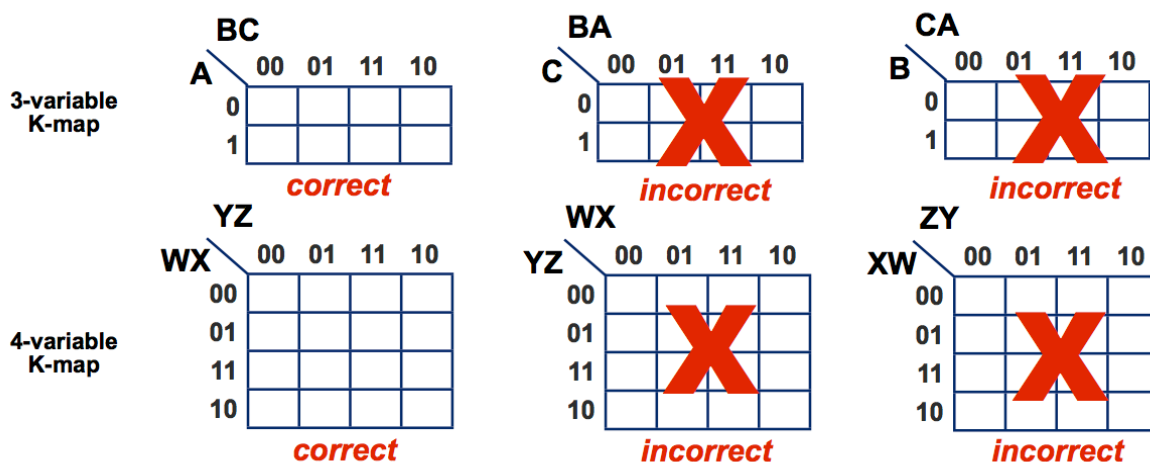
A Guide to Karnaugh Map Formats

The 18-240 staff will enforce a “uniform standard” for the way to draw Karnaugh maps. The goal is to make life easier for the TAs, i.e., so they can just “eyeball” your Kmap solutions and know quickly if you are on the right track or not. If Kmaps are labeled with the variables in a different order, it makes this very hard on the TAs. Since happy TAs are TAs who enjoy giving you (full or partial) credit, and unhappy TAs are people disinclined to do so – it’s in your interest to comply. TAs are specifically empowered and instructed to dock points for otherwise correct solutions that do not follow this format.

Here’s the format, first for small 3, 4-variable maps:

- Sort the variables in alphabetical order.
- For 3-variable and 4-variable maps, put the first variables on the rows, and the later variables on the columns, in alphabetical order.

Examples:

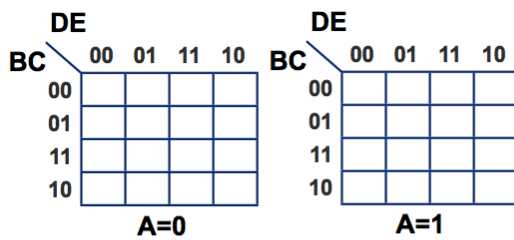


Here’s the form for the bigger 5, 6-variable maps:

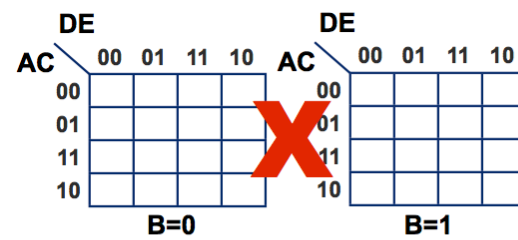
- Again, sort the variables in alphabetical order.
- For 5-variable map: use the left-right horizontal version of the maps. Use the first variable to label the maps, 0 on the left, 1 on the right. For the remaining 4 variables, use the rules above for the two 4-variable maps.
- For the 6-variable maps: use the 2x2 version of the maps. Use the first two variables to label the maps: variable1 is 0 in top row, 1 in bottom row; variable2 is 0 in left column, 1 in right column. Use rules above the 4-variable map for the remaining variables.

More examples on the next page. (It sounds worse than it is – just look at the diagrams).

5-variable Kmap examples:

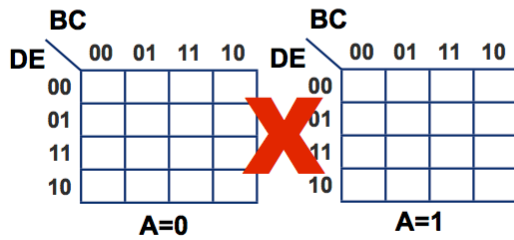


Correct

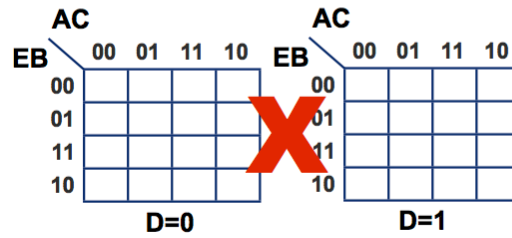


Incorrect: A must label maps

5-variable
K-maps

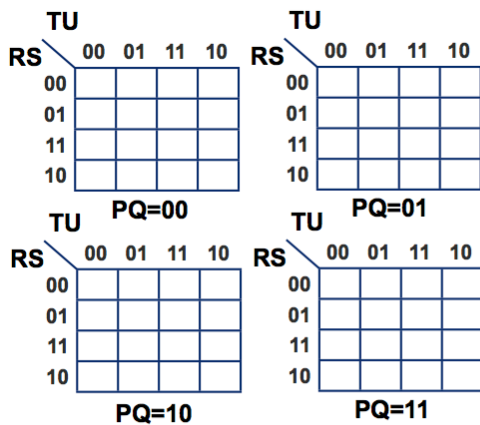


Incorrect: 4-var maps are wrong order



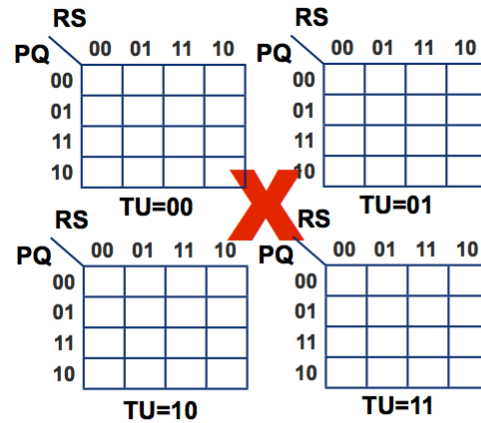
Hey: do you want your TA to hate you?

6-variable Kmap examples



Correct

6-variable
K-maps



Incorrect: wrong vars/order for the 4 maps