Assignment 1 | FPGA Lab

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1 Question

Write the Product of Sum form of function G(U,V,W) for the following truth table representation of F

U	V	W	G
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

2 Solution

2.1 KMAP Implementation

Given truth table can be minimized using a KMap (Figure 1). Using implicants in figure, POS Terms obtained are : $(U + \bar{W}), (V + \bar{W}), (\bar{U} + \bar{V} + W)$

2.2 Minimized POS Expression

$$G = (U + \bar{W}).(V + \bar{W}).(\bar{U} + \bar{V} + W)$$

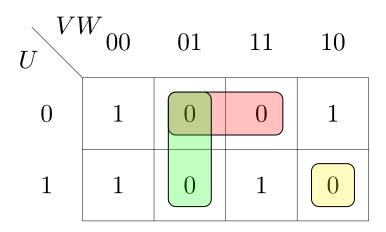


Figure 1: POS for G