EE 5811 : FPGA LAB ASSIGNMENT 1

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	Z'W'	Z'W	ZW	ZW'
X'Y'	1	1	0	0
X'Y	1	1	1	1
XY	0	0	1	0
XY'	1	1	1	0

Fig. 0: K-Map

Download the codes from

1 PROBLEM STATEMENT

Reduce the following Boolean Expression to its simplest form using K-Map.

$$F(X, Y, Z, W) = \sum(0, 1, 4, 5, 6, 8, 9, 11, 15) \quad (1)$$

2 SOLUTION

From the K-Map shown in Figure 0 the above expression can be simplified as,

$$F(X, Y, Z, W) = \sum(0, 1, 4, 5, 6, 8, 9, 11, 15) \quad (2)$$
$$= \bar{X}Y + \bar{Y}\bar{Z} + XZW \quad (3)$$