EE 5811 : FPGA LAB ASSIGNMENT 1

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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

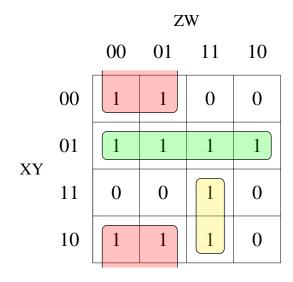From the K-Map shown in Figure 0 the above expression can be simplified as,

Fig. 0: K-Map

$$F(X, Y, Z, W) = \sum(0, 1, 4, 5, 6, 7, 8, 9, 11, 15) \quad (2)$$
$$= \bar{X}Y + \bar{Y}\bar{Z} + XZW \quad (3)$$