

Karnaugh's maps for Task 2

For the Moore's state machine implementation:

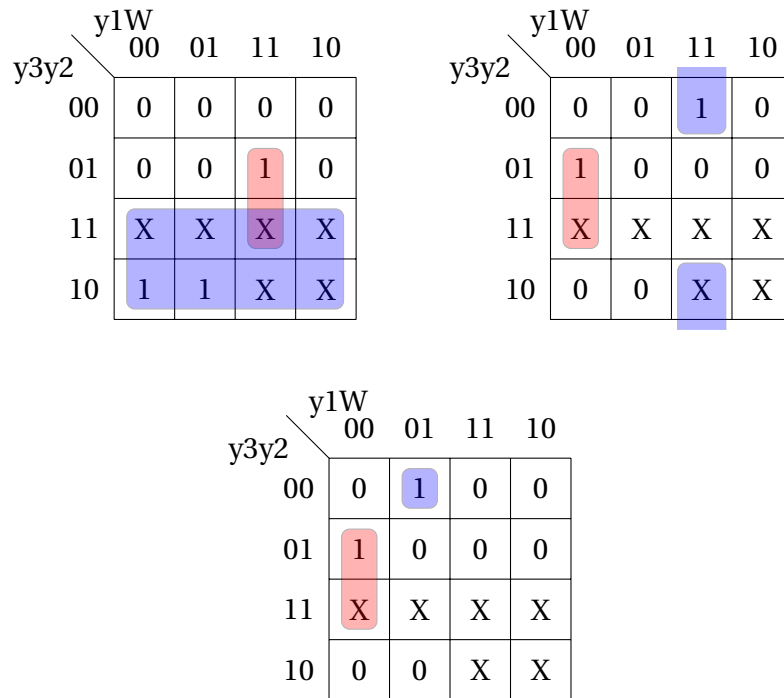


Figure 1: Maps for Y_3 (left), Y_2 (right), and Y_1 (center) functions.

Where $Y_3 = y_3 + y_2 \cdot y_1 \cdot W$, $Y_2 = y_2 \cdot \overline{y_1} \cdot \overline{W} + \overline{y_2} \cdot y_1 \cdot W$, and $Y_1 = \overline{y_3} \cdot \overline{y_2} \cdot \overline{y_1} \cdot W + y_2 \cdot \overline{y_1} \cdot \overline{W}$. From the table of transitions, $Z = y_3$. And for the Mealy's state machine implementation:

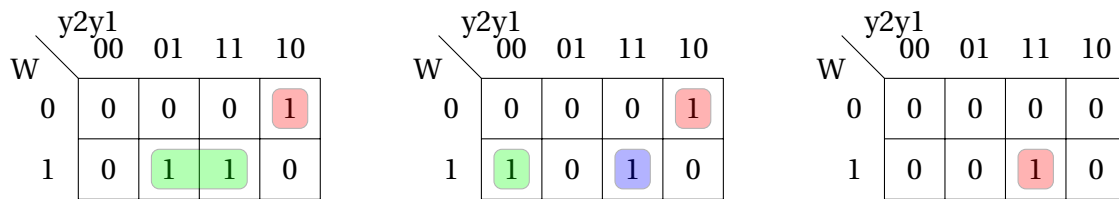


Figure 2: Maps for Y_2 (left), Y_1 (center) and Z (right) functions.

Where $Y_2 = W \cdot y_1 + \overline{W} \cdot y_2 \cdot \overline{y_1}$, $Y_1 = W \cdot \overline{y_2} \cdot \overline{y_1} + W \cdot y_2 \cdot y_1 + \overline{W} \cdot y_2 \cdot \overline{y_1}$, and $Z = W \cdot y_2 \cdot y_1$.