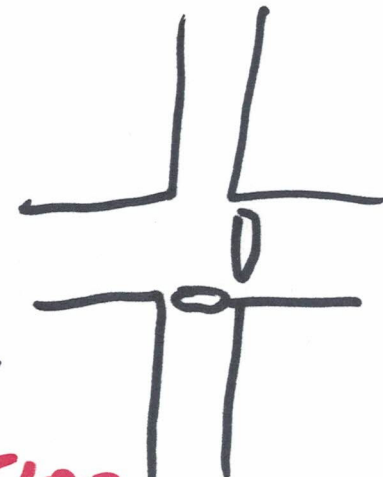


b

G_1	Y_1	R_1	G_2	Y_2	R_2	a	b	C
0	0	1	1	0	0	0	0	0
0	0	1	0	1	0	0	0	1
0	0	1	0	0	1	0	1	0
1	0	0	0	0	1	0	1	1
0	1	0	0	0	1	1	0	1
0	0	1	0	0	1	1	0	0

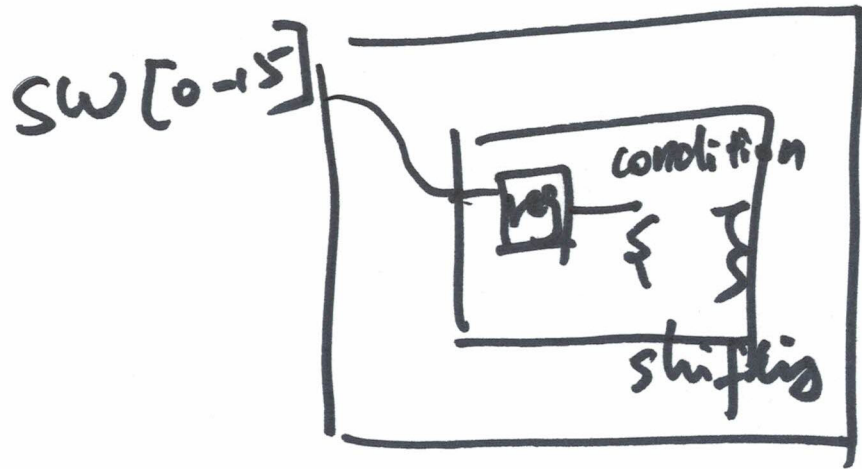
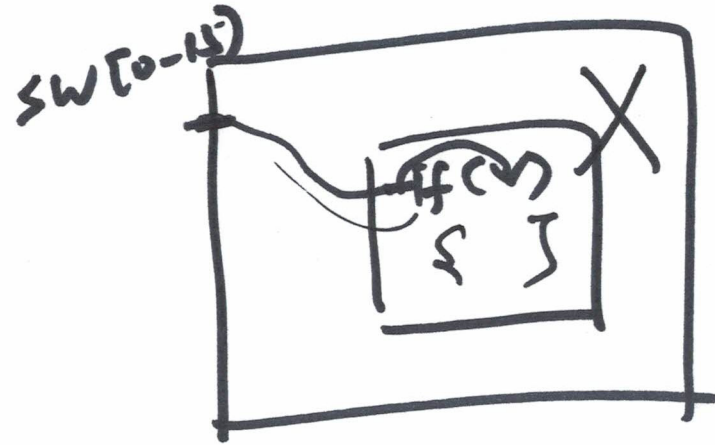


~~100~~ ~~100~~ ~~100~~

$$\begin{cases} G_1 = \bar{a}bc \\ Y_1 = a\bar{b}\bar{c} \end{cases}$$

$a \backslash bc$	00	01	11	10
0	1	1		1
1		1		

$$R_1 = \bar{a}\bar{b}\bar{c} + \bar{a}\bar{b}c + \bar{a}b\bar{c} + a\bar{b}c = \bar{a}\bar{c} + \bar{a}\bar{b} + \bar{b}c$$



```

module top (input [15:0] sw,
            input clk,
            output [15:0] led
            );
    traffic_decoder uut (
        .clk(clk),
        .rush(sw[0]),
        .light1( ),
        .light2( )
    );
endmodule

```