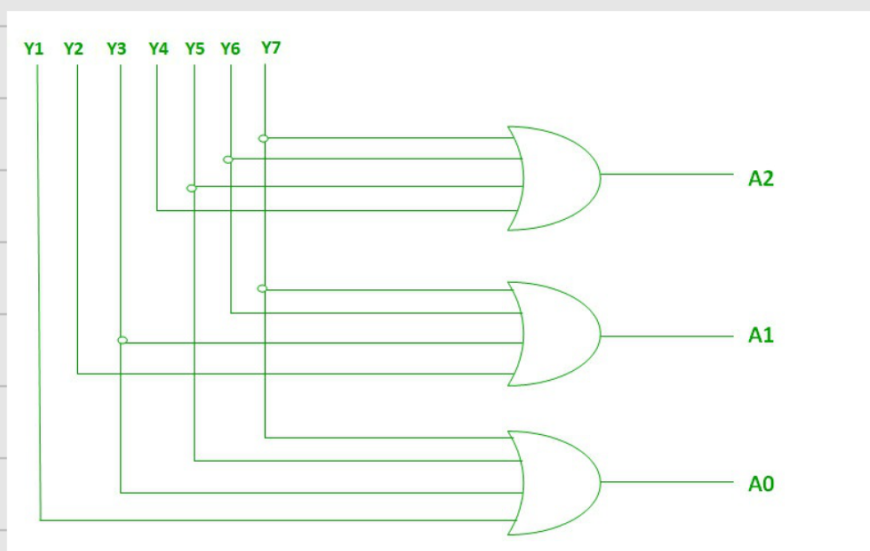


a) Active low

Inputs								Outputs		
I_0	I_1	I_2	I_3	I_4	I_5	I_6	I_7	O_0	O_1	O_2
1	1	1	1	1	1	1	0	1	1	1
1	1	1	1	1	1	0	1	0	1	1
1	1	1	1	1	0	1	1	1	0	1
1	1	1	1	0	1	1	1	0	0	1
1	1	1	0	1	1	1	1	1	1	0
1	1	0	1	1	1	1	1	0	1	0
1	0	1	1	1	1	1	1	1	0	0
0	1	1	1	1	1	1	1	0	0	0



ref even
this image
from geeks
for geeks

$$b) \quad O_2 = \overline{I_7} + \overline{I_6} + \overline{I_5} + \overline{I_4}$$

$$= \overline{(I_7 \cdot I_6 \cdot I_5 \cdot I_4)} \quad \text{De Morgan's law}$$

$$O_1 = \overline{I_7} + \overline{I_6} + \overline{I_3} + \overline{I_2}$$

$$= \overline{(I_7 \cdot I_6 \cdot I_3 \cdot I_2)} \quad \text{De Morgan's law}$$

$$O_0 = \overline{I_7} + \overline{I_5} + \overline{I_3} + \overline{I_1}$$

$$= \overline{(I_7 \cdot I_5 \cdot I_3 \cdot I_1)} \quad \text{De Morgan's law}$$

c.)

