Classwork 04 CPE221 Computer Organization

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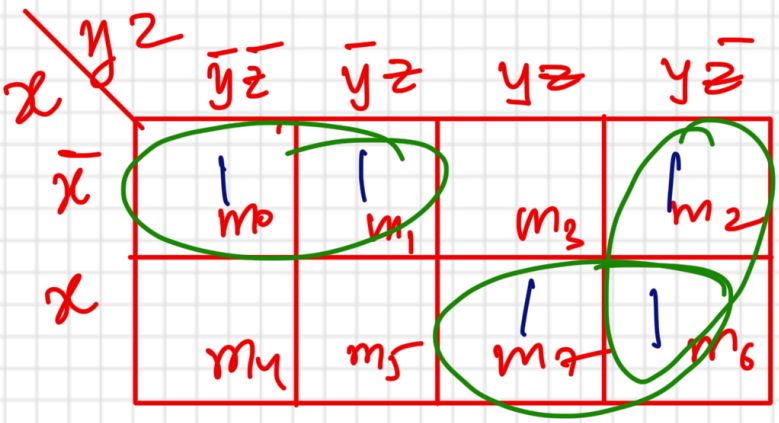
Simplify the Boolean Expression

$$xyz + xyz' + x'yz' + x'y'z' + x'y'z$$
$$111 \quad 110 \quad 010 \quad 000 \quad 001$$

using k-map.

Solution

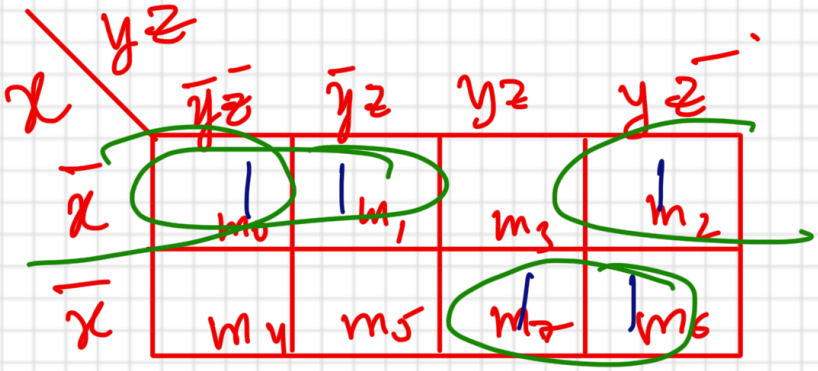
	x	y	z
m_0	0	0	0
m_1	0	0	1
m_2	0	1	0
m_3	0	1	1
m_4	1	0	0
m_5	1	0	1
m_6	1	1	0
m_7	1	1	1



$$f(x, y, z) = \Sigma(0, 1, 2, 6, 7)$$

$$= \bar{x}\bar{y} + y\bar{z} + xy$$

OR



$$= \bar{x}\bar{z} + \bar{x}y + \bar{x}y$$