2 Bit Multiplier

29 September 2023 11:23

$A = A_2 A_1$ $\quad A \times B$

$B = B_2 B_1$

$A_2\ A_1$

$\times\ B_2\ B_1$

$A_2B_1 \quad A_1B_1$

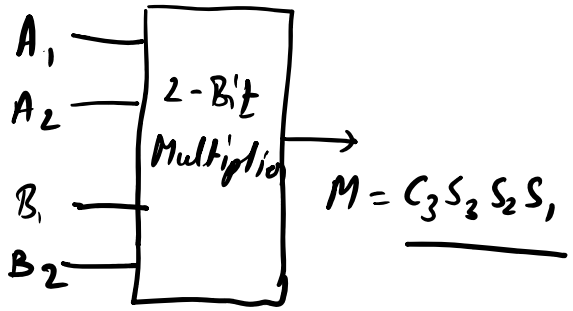
$A_2B_2 \quad A_1B_2 \quad \times$

$A_2B_2 \quad A_1B_2 + A_2B_1 \quad A_1B_1$

$+\ C_2 \quad \times\ C_2\ Y$

$C_3 \quad C_3\ S_3 \quad S_2 \quad S_1$

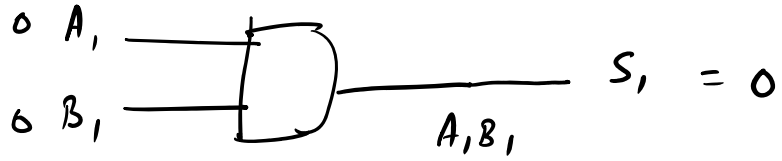
Multiplication = $C_3\ S_3\ S_2\ S_1$

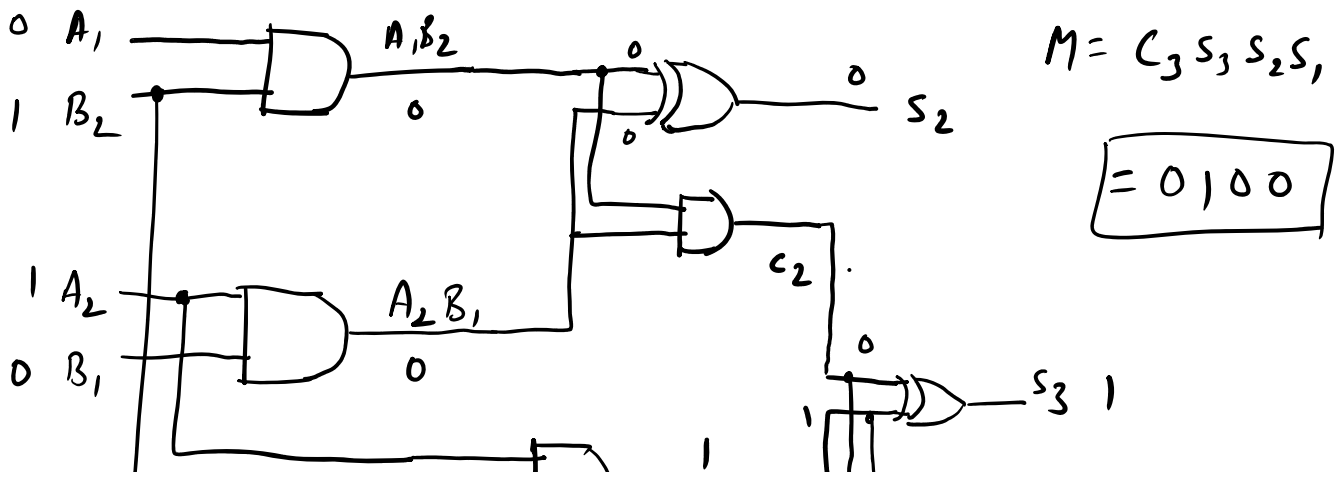


$S_1 = A_1B_1$

$S_2 = A_1B_2 + A_2B_1$

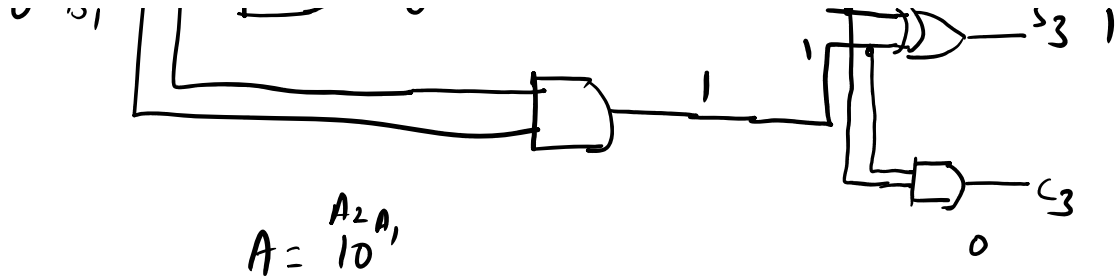
$S_3 = A_2B_2 + C_2$





$M = C_3\ S_3\ S_2\ S_1$

$= 0100$



$A = 10_{A_2 A_1}$

$B = 10_{B_2 B_1}$