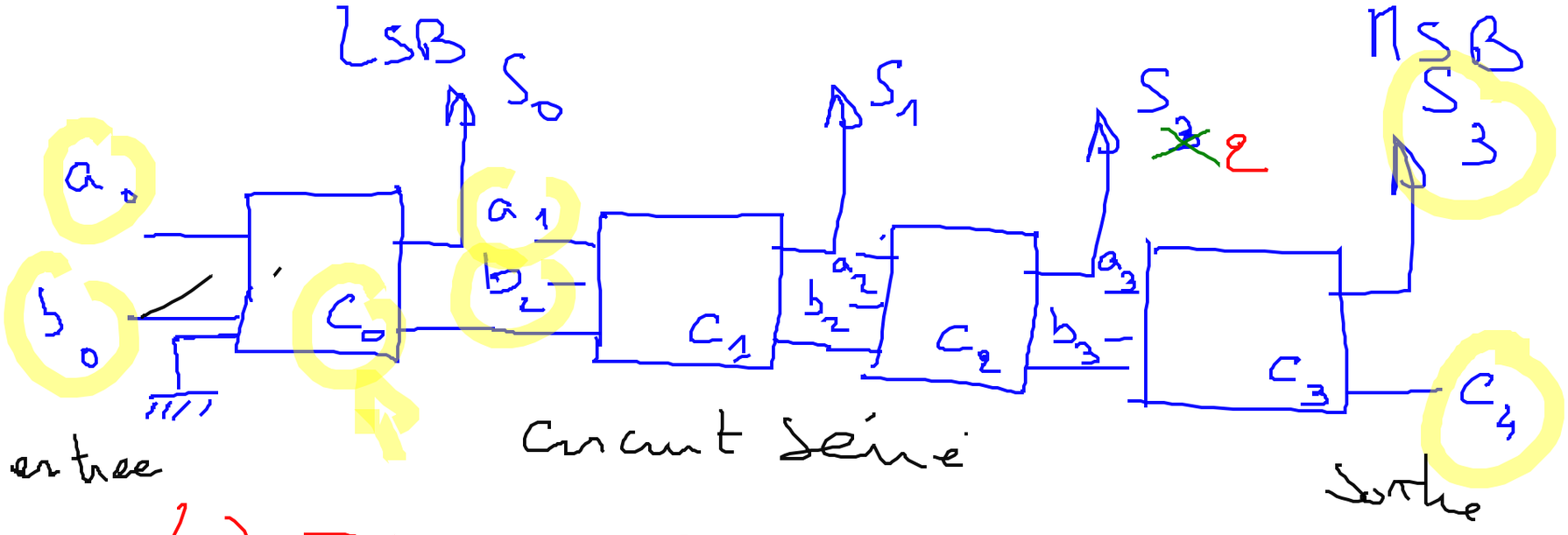
3) Additionneur 4 bits



4) 74LS283

$$\overline{\Sigma_1} = \overline{\left(\overline{a_1} + \overline{b_1}\right) \cdot (b_1 + a_1)} \oplus C_0$$

car $\overline{a_1 \cdot b_1} = \overline{a_1} + \overline{b_1}$

et $\overline{a_1 + b_1} = \overline{a_1} \cdot \overline{b_1}$

$$\Sigma_1 = a_1 \oplus b_1 \oplus C_0$$