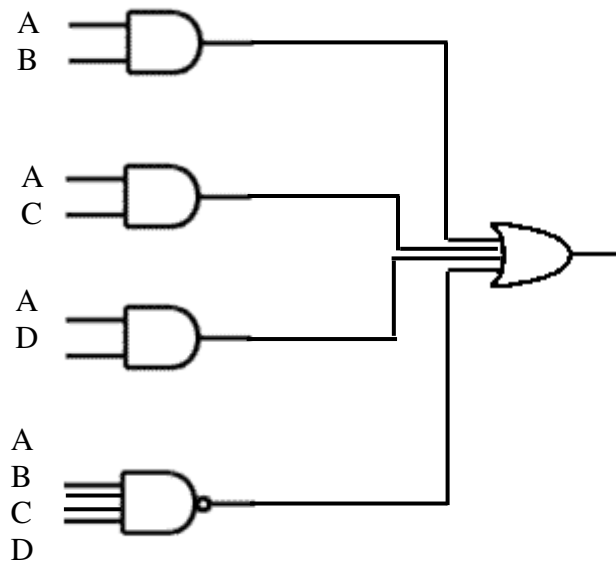
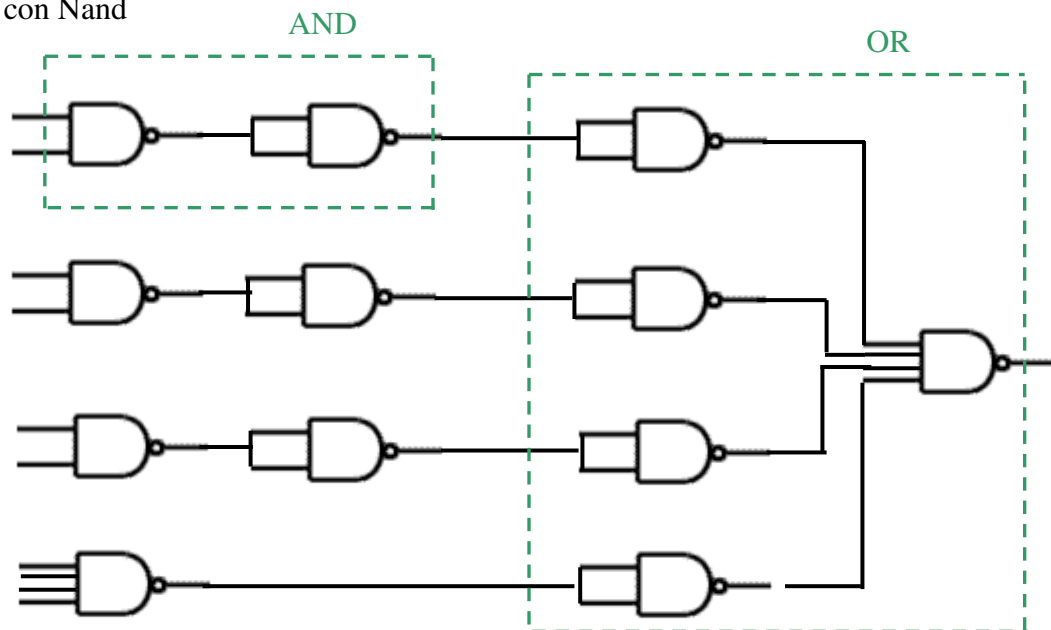


5) a) $F = A.B + A.C + A.D + \overline{A.B.C.D}$



Sólo con Nand

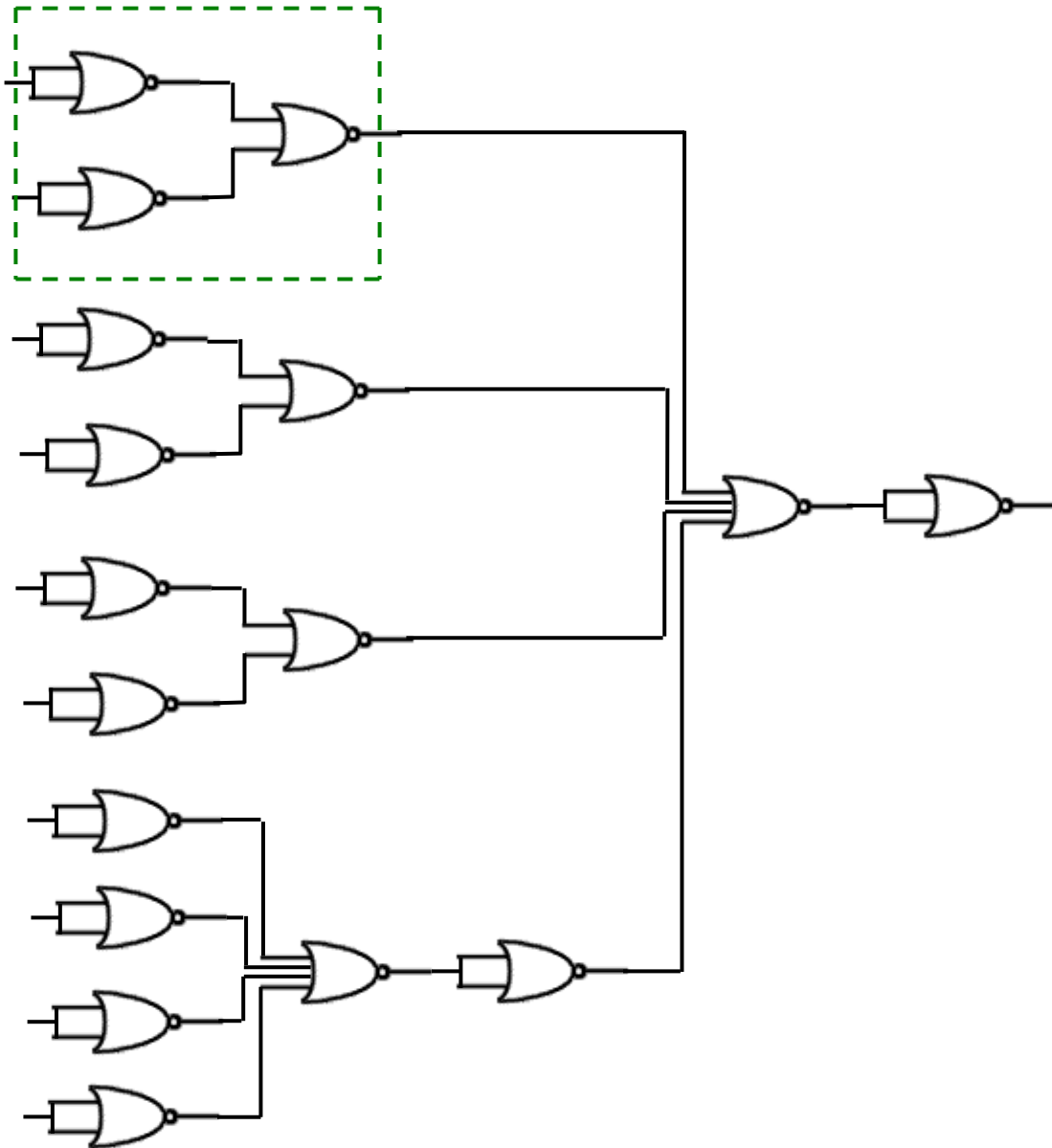


$$F = \overline{\overline{A.B}} + \overline{\overline{A.C}} + \overline{\overline{A.D}} + \overline{\overline{A.B.C.D}} = \overline{\overline{A.B}} + \overline{\overline{A.C}} + \overline{\overline{A.D}} + \overline{\overline{A.B.C.D}} =$$

$$= \overline{\overline{A.B}} \cdot \overline{\overline{A.C}} \cdot \overline{\overline{A.D}} \cdot \overline{\overline{A.B.C.D}} = \overline{A.B} \cdot \overline{A.C} \cdot \overline{A.D} \cdot \overline{A.B.C.D}$$

Sólo con Nor

AND



$$\begin{aligned}
 F &= \overline{\overline{A.B} + \overline{A.C} + \overline{A.D} + \overline{A.B.C.D}} = \\
 &= \overline{\overline{A} + \overline{B} + \overline{A} + \overline{C} + \overline{A} + \overline{D} + \overline{A+B+C+D}}
 \end{aligned}$$

b) $F = A + B + C + D = \overline{\overline{A \cdot B \cdot C \cdot D}}$

Sólo con Nor



Sólo con Nand

