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EJERCICIO # 1

Tabla # 01

A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1

Ecuación SOP

$$y = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}\bar{C} + A\bar{B}C + ABC$$

Ecuación POS

$$y = (A + B + \bar{C})(A + \bar{B} + \bar{C})(\bar{A} + \bar{B} + C)$$

Tabla # 02:

A	B	C	Y
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

Ecuación SOP

$$y = \bar{A}\bar{B}C + AB\bar{C} + ABC$$

Ecuación POS

$$y = (A + B + C)(A + \bar{B} + C)(A + \bar{B} + \bar{C})(\bar{A} + B + C)(\bar{A} + B + \bar{C})$$

Tabla # 03

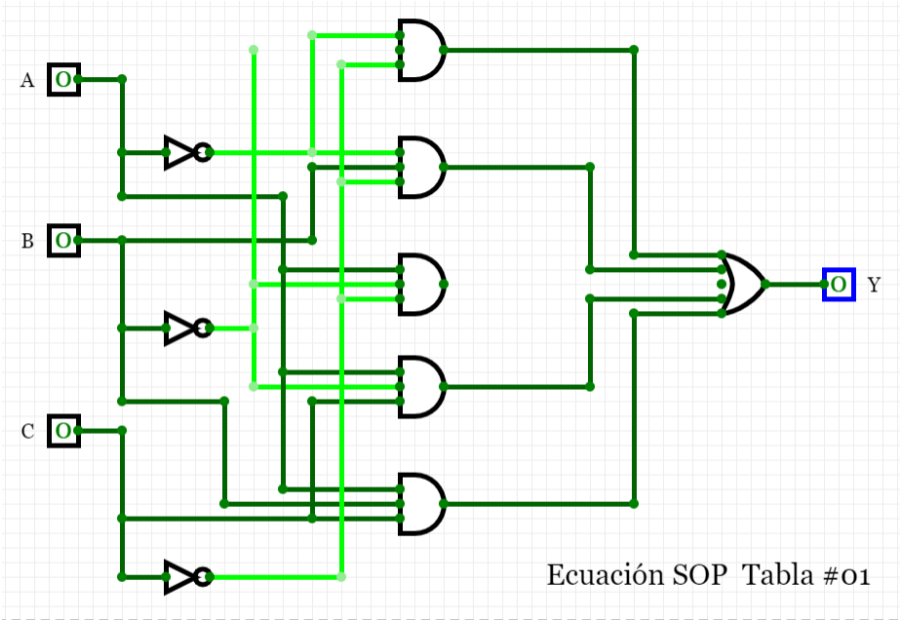| A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	1
1	1	1	1	0

Ecuación SOP

$$y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}C\bar{D} + \bar{A}\bar{B}CD + A\bar{B}\bar{C}\bar{D} + A\bar{B}C\bar{D} + ABC\bar{D}$$

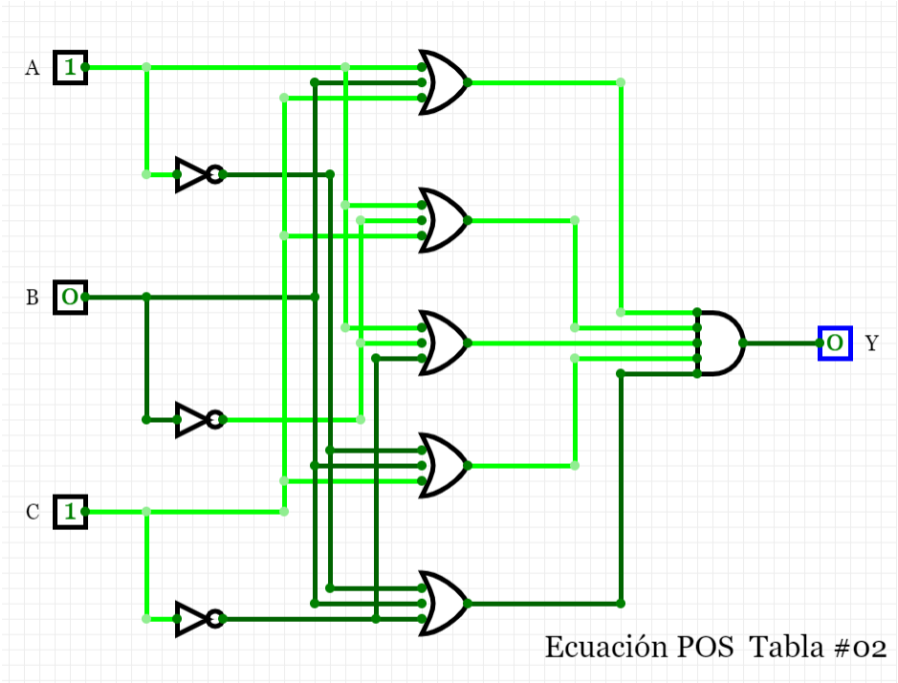Ecuación POS

$$y = (A + \bar{B} + C + D)(A + \bar{B} + C + \bar{D})(A + \bar{B} + \bar{C} + D)(A + \bar{B} + \bar{C} + \bar{D})(\bar{A} + B + C + \bar{D})(\bar{A} + B + \bar{C} + \bar{D})(\bar{A} + \bar{B} + C + D)(\bar{A} + \bar{B} + C + \bar{D})(\bar{A} + \bar{B} + \bar{C} + \bar{D})$$

Tabla # 04:

A	B	C	D	Y
0	0	0	0	1
0	0	0	1	0
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	0
0	1	1	0	1
0	1	1	1	1
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

Ecuación SOP

$$y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}C\bar{D} + \bar{A}\bar{B}CD + \bar{A}BC\bar{D} + \bar{A}BCD + A\bar{B}\bar{C}\bar{D} + A\bar{B}C\bar{D}$$

Ecuación POS

$$y = (A + B + C + \bar{D})(A + \bar{B} + C + D)(A + \bar{B} + C + \bar{D})(\bar{A} + B + C + \bar{D})(\bar{A} + B + \bar{C} + \bar{D})(\bar{A} + B + C + D)(\bar{A} + \bar{B} + C + \bar{D})(\bar{A} + \bar{B} + \bar{C} + D)(\bar{A} + \bar{B} + \bar{C} + \bar{D})$$
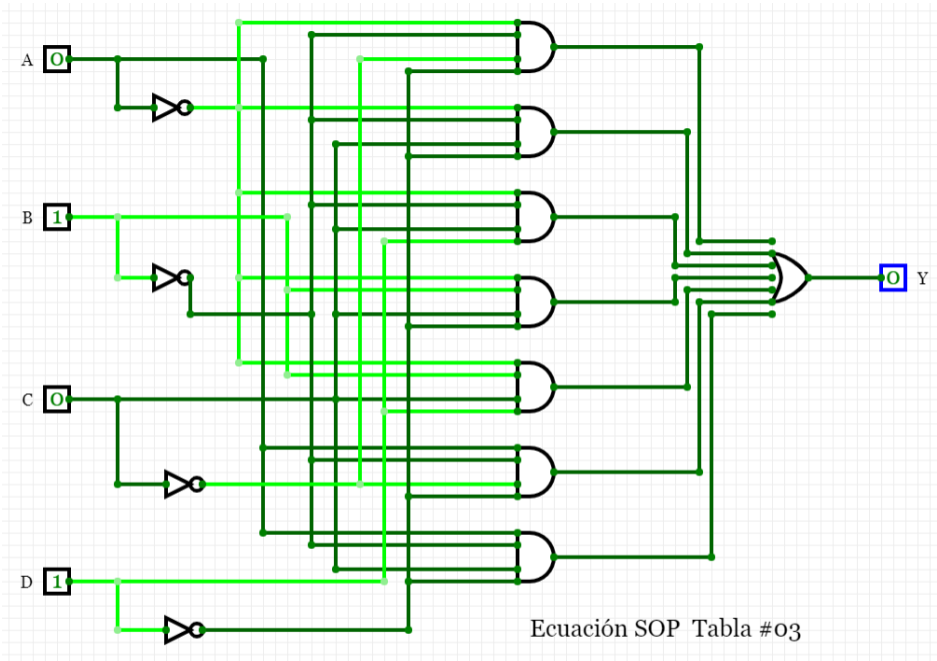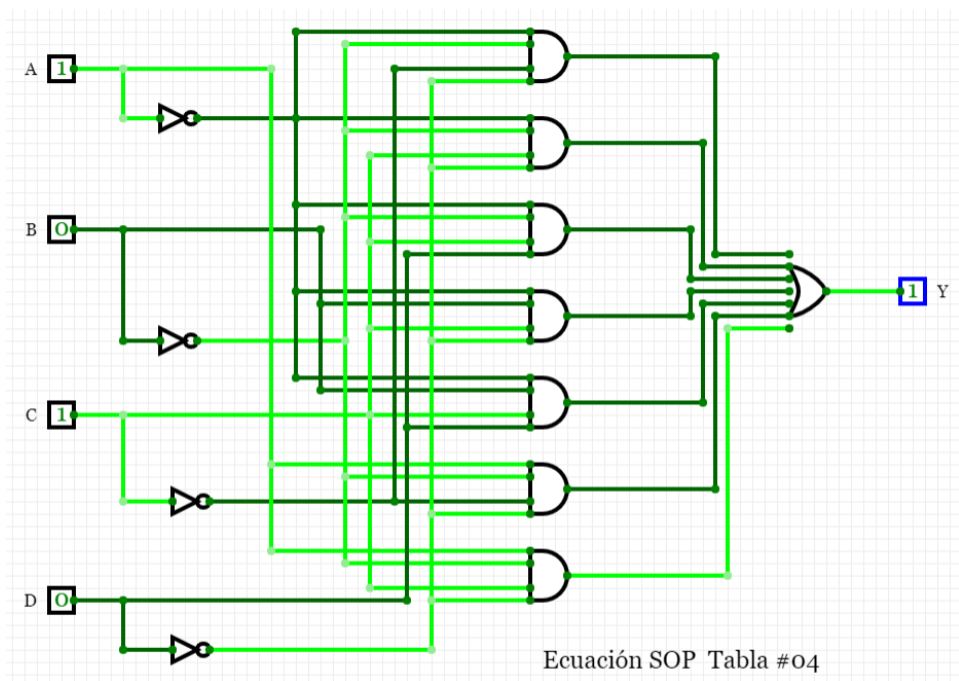
EJERCICIO # 2

Esquemático #1

Ecuación SOP Tabla #01

Esquemático #2

Ecuación POS Tabla #02

Esquemático #3

Ecuación SOP Tabla #03

Esquemático #4

Ecuación SOP Tabla #04

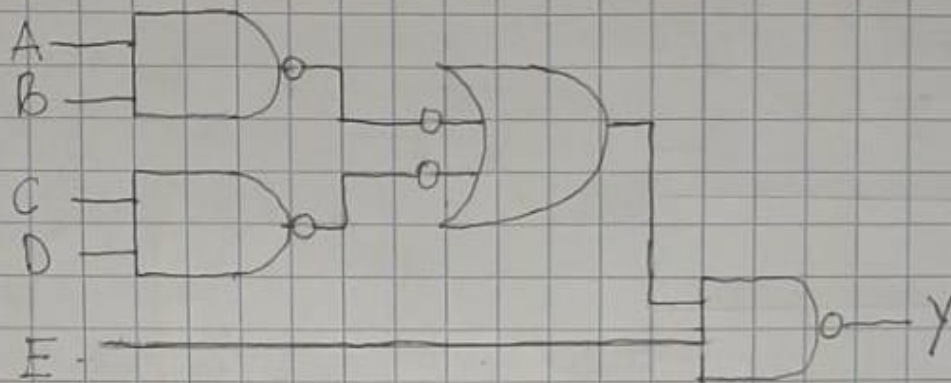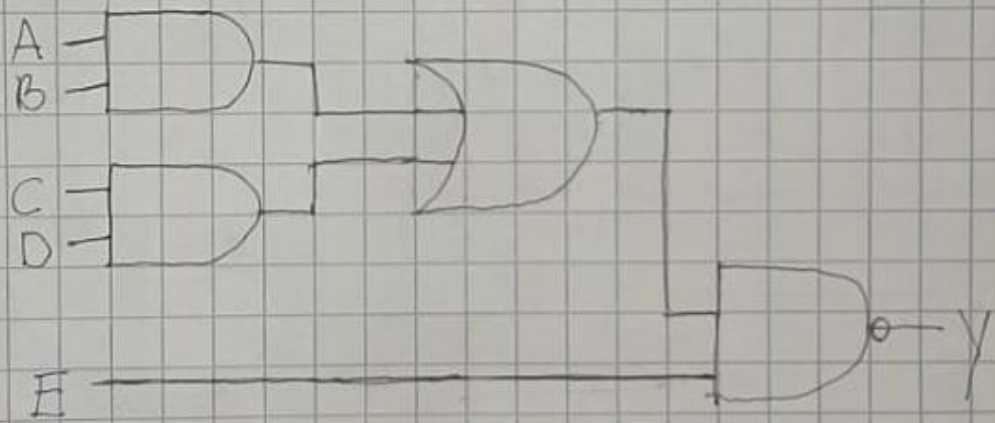## EJERCICIO # 4

Simplificación del circuito esquemático #1.

Reduciendo obtenemos que:

Simplificación.

$$y = (\,[AB] + [CD]\,)(E)$$

Simplificación del circuito esquemático #2.

Simplificando:

$$Y = [(\overline{A} + \overline{B} + \overline{C})(D)][E + (FG)]$$
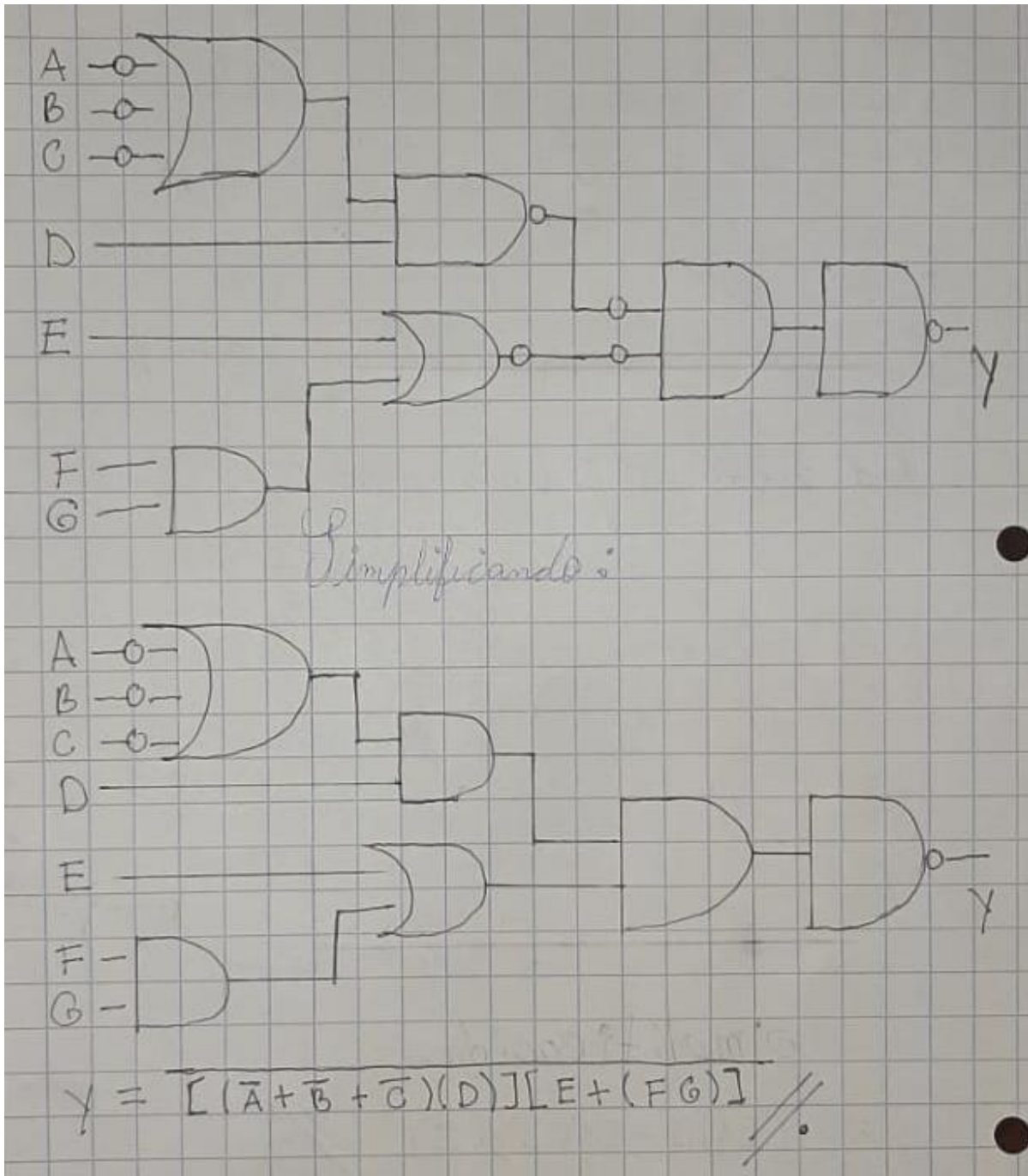
Link de repositorio:

https://github.com/Angel-Cuellar/laboratorio3_digital1