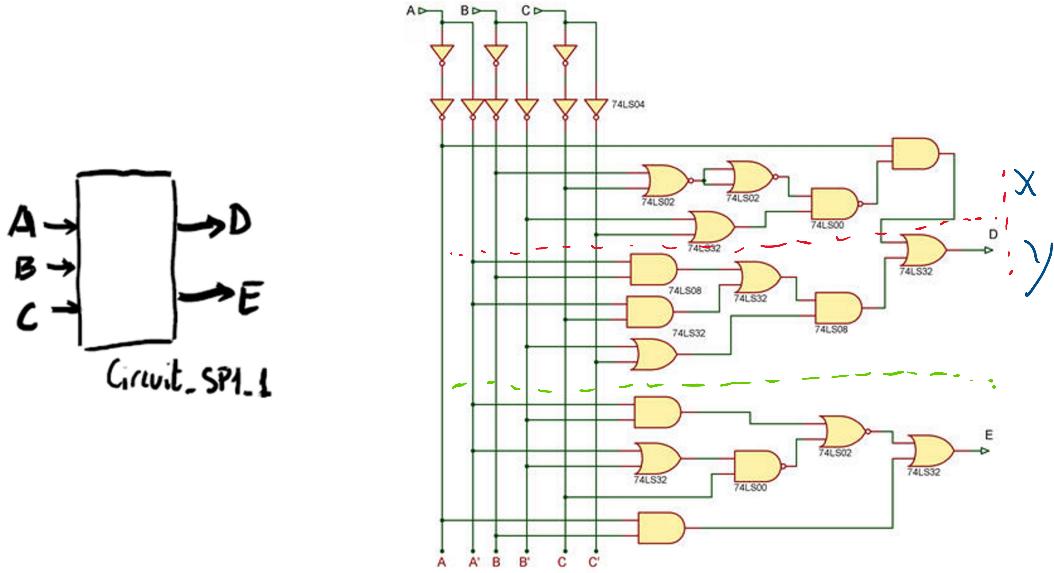


SP1_1

miércoles, 2 de marzo de 2022 11:45

1.1 specification



n	A	B	C	D	E
0	0	0	0	0	0
1	0	0	1	1	0
2	0	1	0	1	0
3	0	1	1	0	1
4	1	0	0	1	0
5	1	0	1	0	1
6	1	1	0	0	1
7	1	1	1	1	1

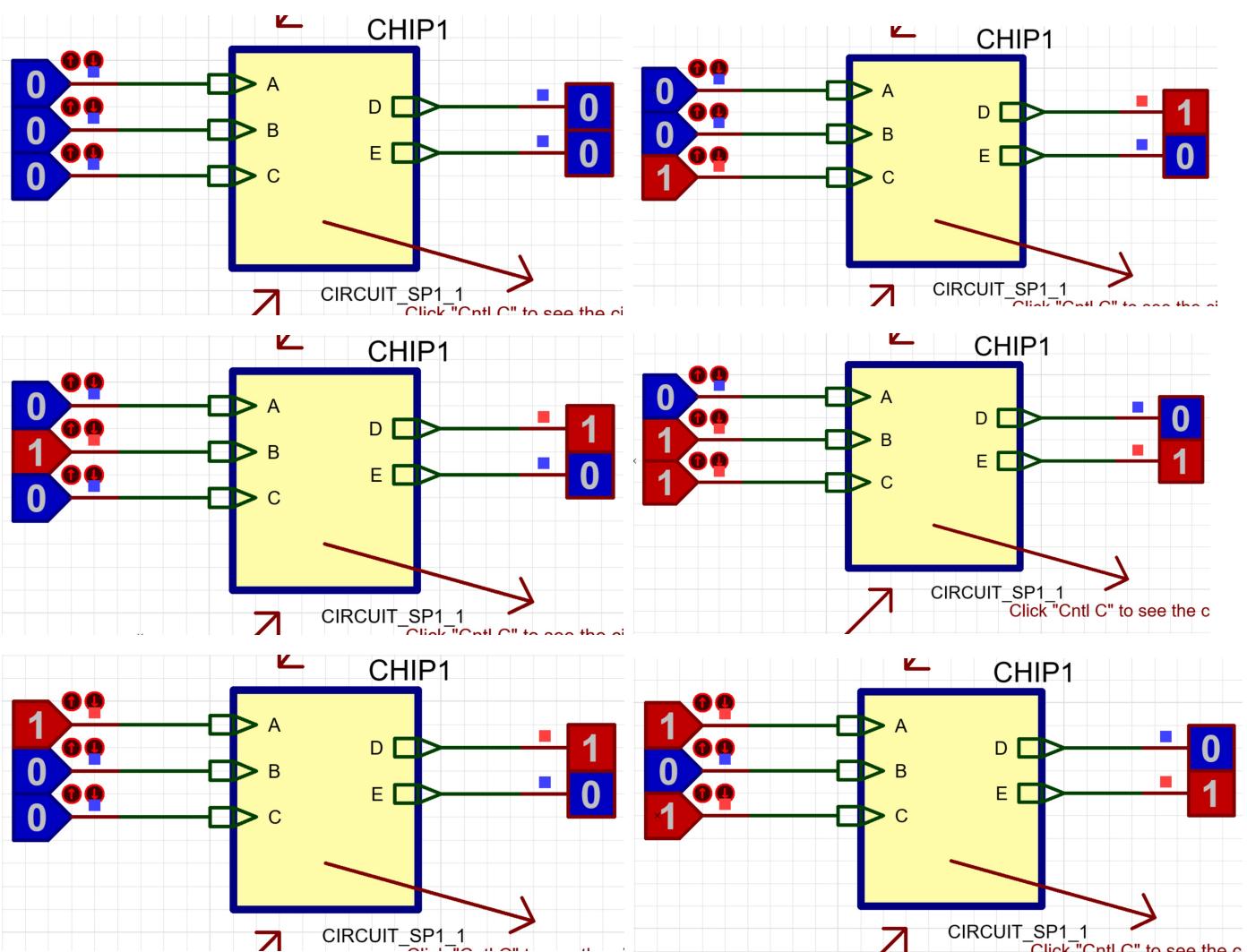
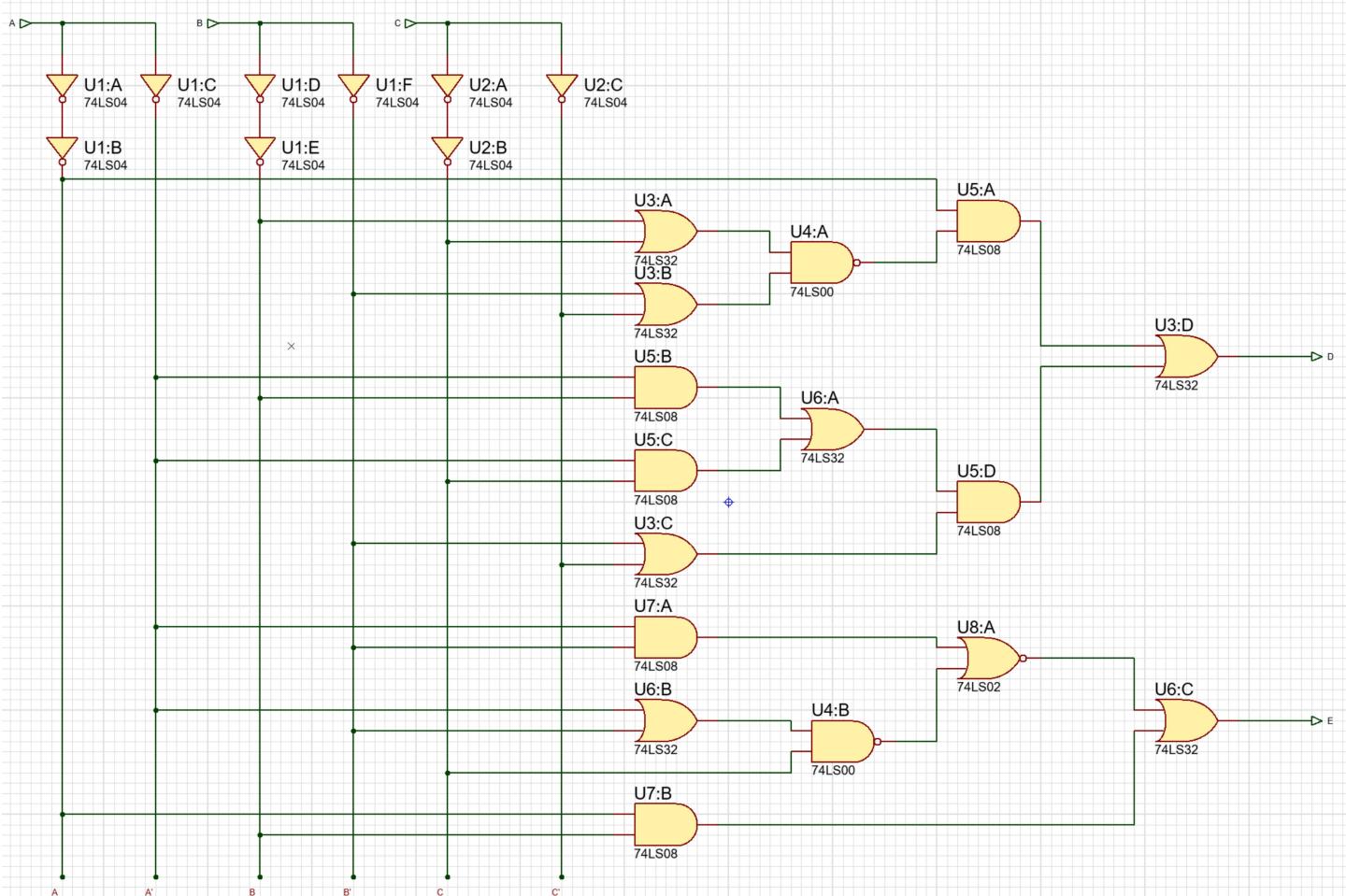
You, seconds ago | 1 author (You)

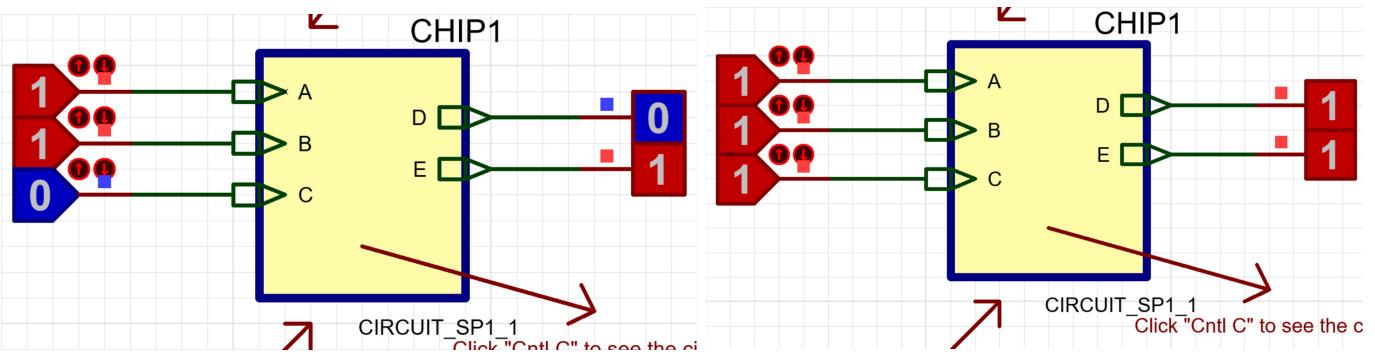
```
in_names = "A,B,C"
```

`out_names = "D,E"`

```
def eq(inputs):
    A, B, C = inputs
    X = A and not ((B or C) and (not B or not C))
    Y = ((not A and B)#{0}
          | or (not A and C))#{1}=>1
          | and (not B or not C))#{1}=>1
    D = X or Y
    E = not ((not A and not B) or not ((not A or not B) and C)) or (A and B)
    return [D, E]
```

Table base on a program that I made to have a baseline with which to compare
The program can be found at <https://github.com/Sergiogd112/pytruthtab>





a. Methode 2: Wolfram alpha

Final equations

$$X = A \text{ and not } ((B \text{ or } C) \text{ and } (\text{not } B \text{ or not } C))$$

A	B	C	$A \wedge \neg((B \vee C) \wedge (\neg B \vee \neg C))$
T	T	T	T
T	T	F	F
T	F	T	F
T	F	F	T
F	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F

$$Y = ((\text{not } A \text{ and } B) \text{ or } (\text{not } A \text{ and } C)) \text{ and } (\text{not } B \text{ or not } C)$$

A	B	C	$((\neg A \wedge B) \vee (\neg A \wedge C)) \wedge (\neg B \vee \neg C)$
T	T	T	F
T	T	F	F
T	F	T	F
T	F	F	F
F	T	T	F
F	T	F	T
F	F	T	T
F	F	F	F

$$D = X \text{ or } Y = (A \text{ and not } ((B \text{ or } C) \text{ and } (\text{not } B \text{ or not } C))) \text{ or } (((\text{not } A \text{ and } B) \text{ or } (\text{not } A \text{ and } C)) \text{ and } (\text{not } B \text{ or not } C))$$

A	B	C	$(A \wedge \neg((B \vee C) \wedge (\neg B \vee \neg C))) \vee ((\neg A \wedge B) \vee (\neg A \wedge C)) \wedge (\neg B \vee \neg C)$
T	T	T	T
T	T	F	F
T	F	T	F
T	F	F	T
F	T	T	F
F	T	F	T
F	F	T	T
F	F	F	F

$$E = \text{not } ((\text{not } A \text{ and not } B) \text{ or not } ((\text{not } A \text{ or not } B) \text{ and } C)) \text{ or } (A \text{ and } B)$$

A	B	C	$\neg((\neg A \wedge \neg B) \vee \neg((\neg A \vee \neg B) \wedge C)) \vee (A \wedge B)$
T	T	T	T
T	T	F	T
T	F	T	T
T	F	F	F
F	T	T	T
F	T	F	F
F	F	T	F
F	F	F	F