Submission # 2

2.2

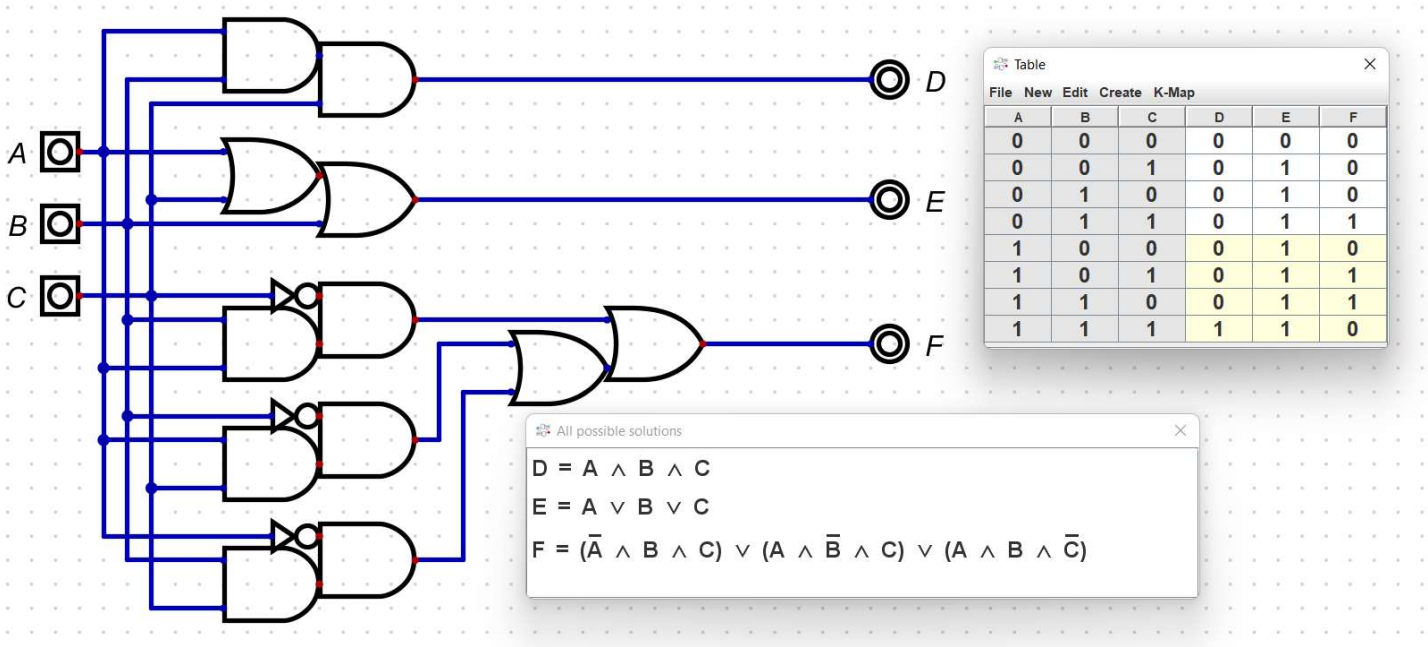
2.2.1

A	B	C	D	E	F
0	0	0	0	0	0
0	0	1	0	1	0
0	1	0	0	1	0
0	1	1	0	1	1
1	0	0	0	1	0
1	0	1	0	1	1
1	1	0	0	1	1
1	1	1	1	1	0

2.2.2

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

2.2.3



2.2.4

siehe 2.2.3

2.3

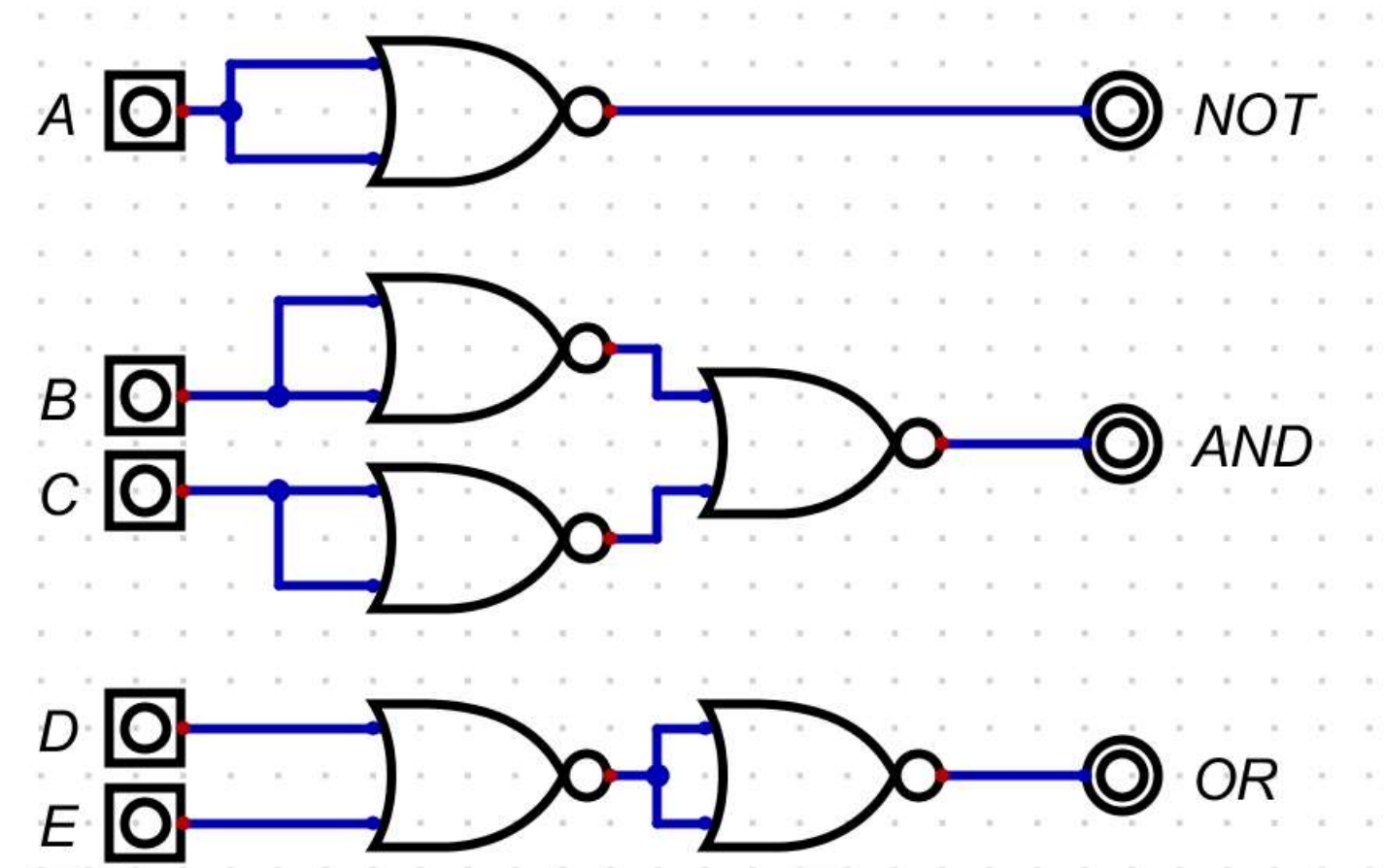
2.3.1

not: $\overline{a+a} = \overline{a}$

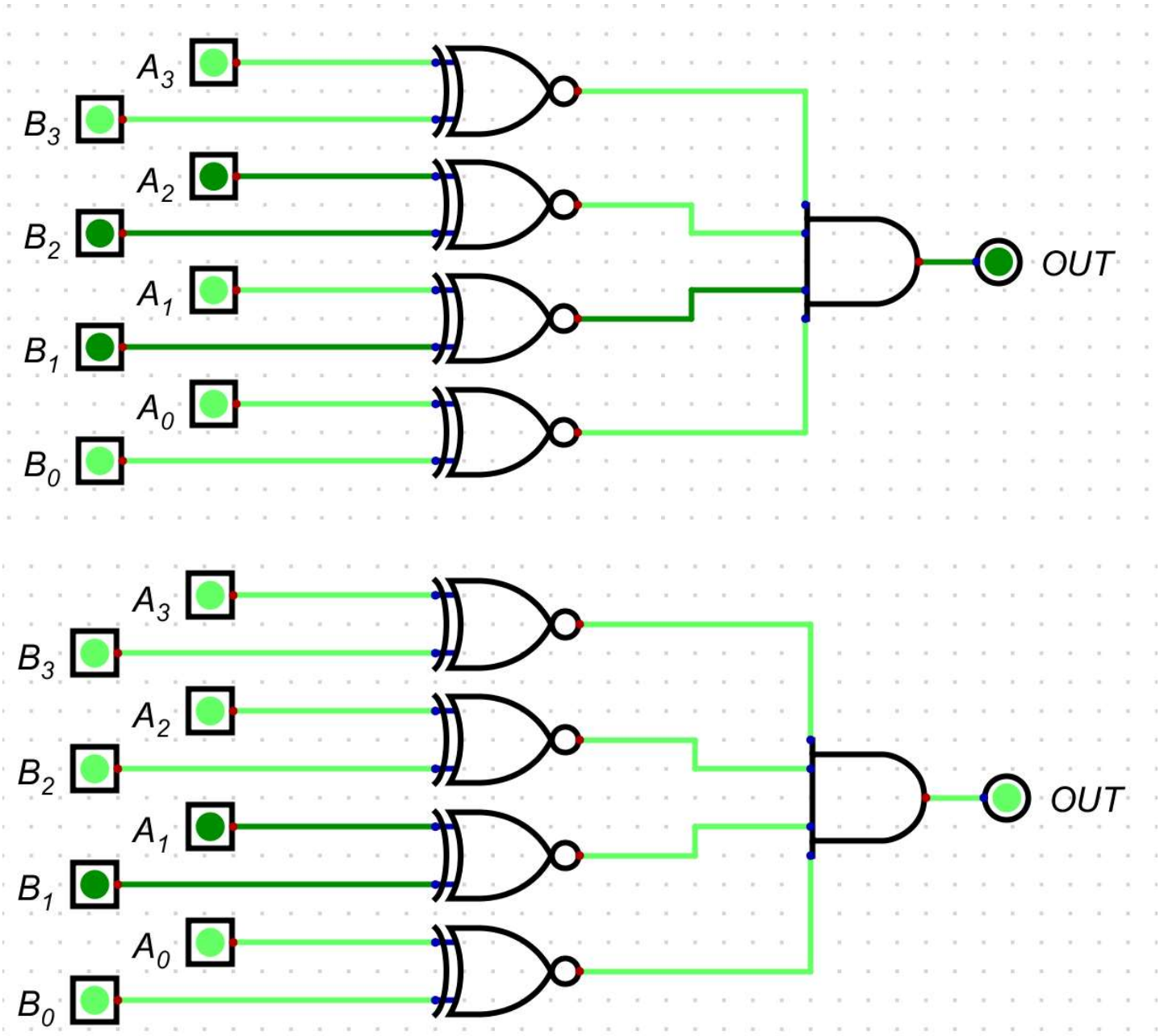
and: $\overline{\overline{a+a}+\overline{b+b}} = \overline{\overline{a}+\overline{b}} = a \cdot b$

or: $\overline{\overline{a+b}+\overline{a+b}} = \overline{\overline{a+b}} = a+b$

2.3.2



2.4



2.5

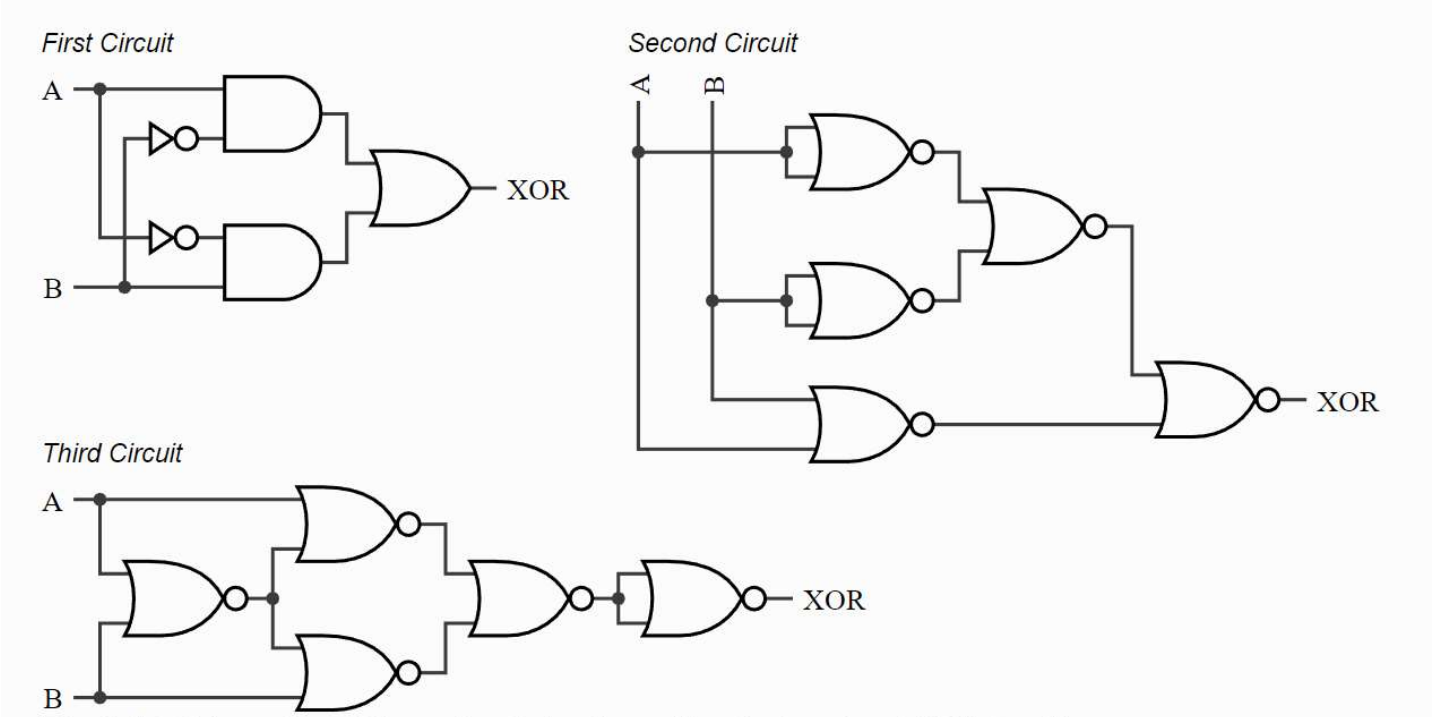


Fig. 2.5.1 *Schematics of three circuits implementing the two-input XOR function.*

Gate	t_{cd}	t_{pd}
NOT	10 ps	15 ps
AND	25 ps	30 ps
OR	30 ps	40 ps
NOR	25 ps	30 ps

2.5.1

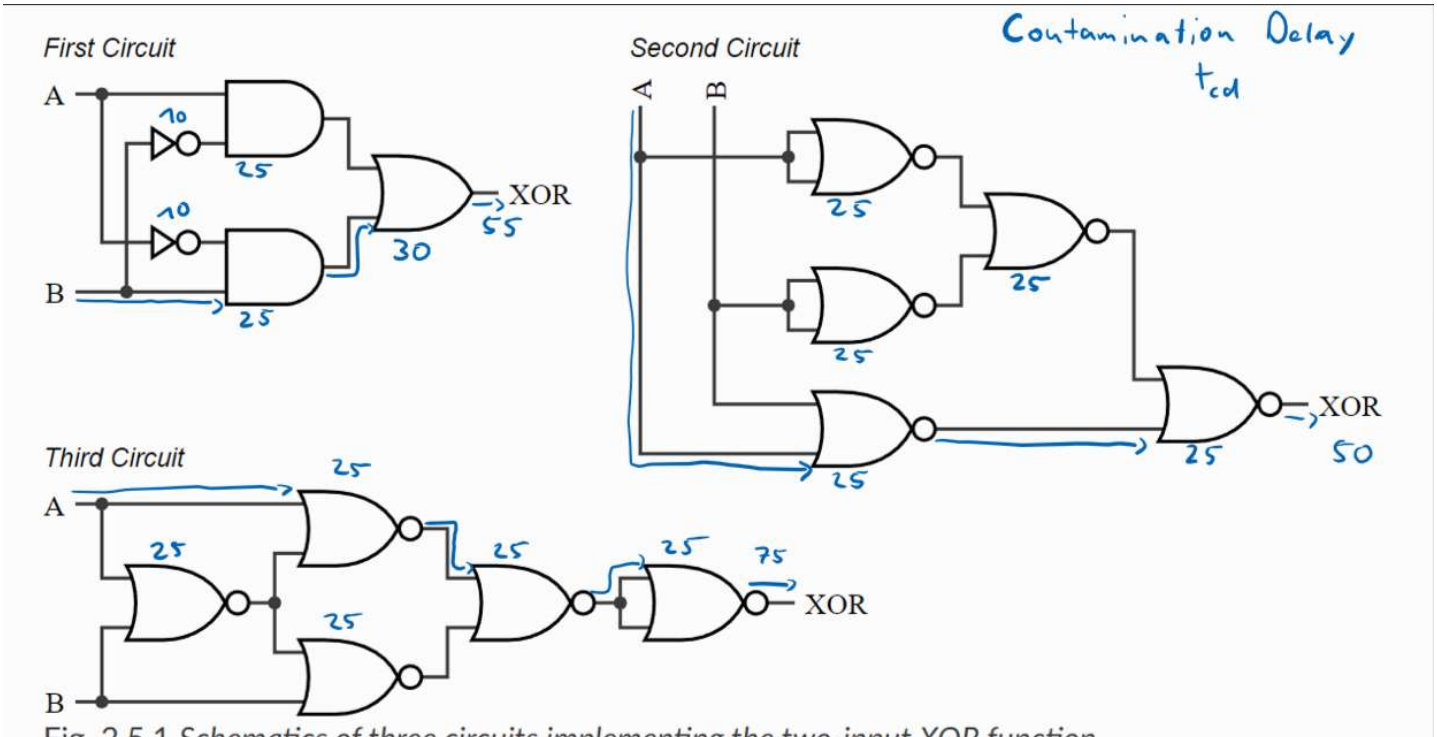


Fig. 2.5.1 *Schematics of three circuits implementing the two-input XOR function.*

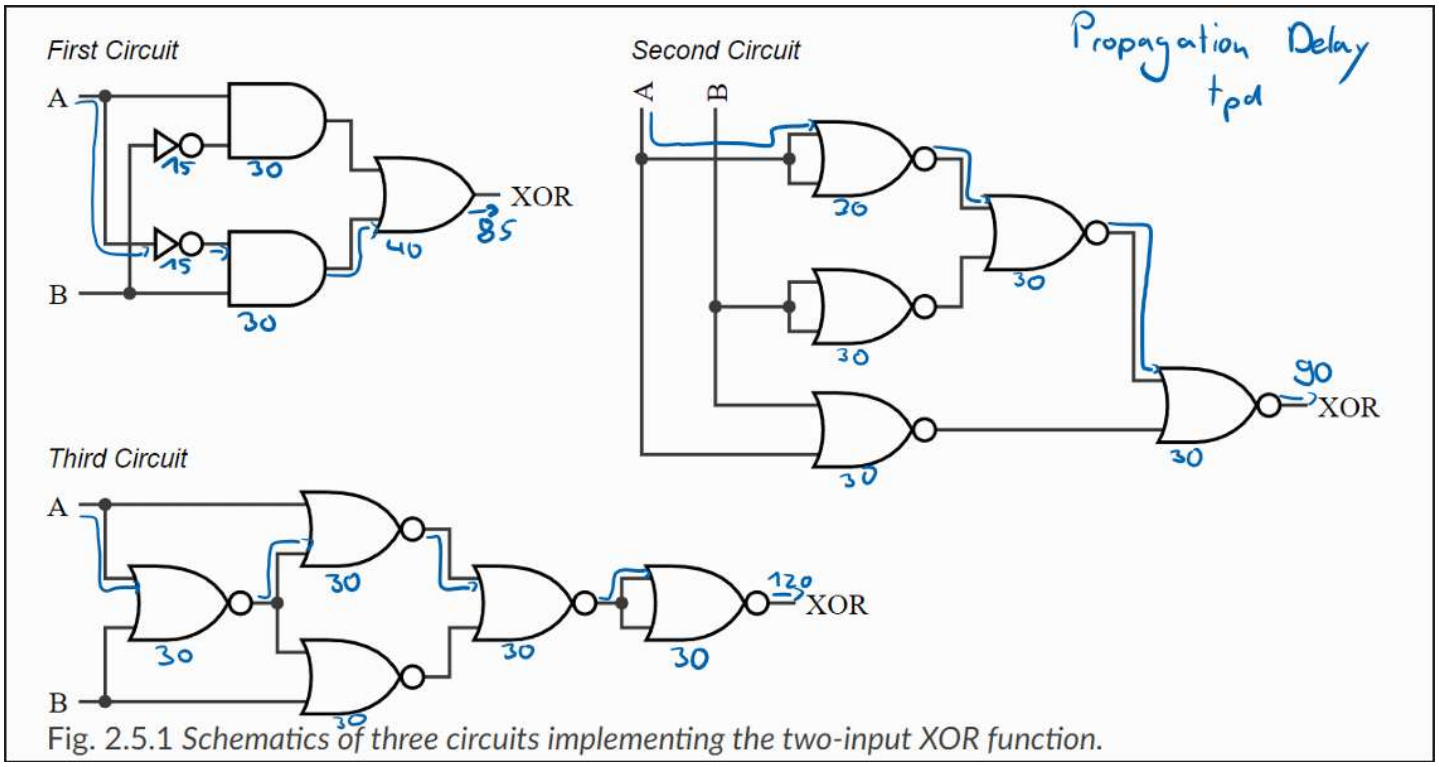


Fig. 2.5.1 *Schematics of three circuits implementing the two-input XOR function.*

The First Circuit has the shortest propagation delay and therefore the best suited.

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