Zad. 1

a) $f(x, y) = (\sim x \cup \sim y) \cap \sim(y \cup \sim x)$

x	y	~x	~y	(~x ∪ ~y) = b	(y ∪ ~x) = a	~a	b ∩ ~a
1	1	0	0	0	1	0	0
1	0	0	1	1	0	1	1
0	1	1	0	1	1	0	0
0	0	1	1	1	1	0	0

b) $f(x, y, z) = \sim z \cup (x \cap y \cap \sim z)$

x	y	z	~z	(x ∩ y ∩ ~z)	~z ∪ (x ∩ y ∩ ~z)
1	1	1	0	0	0
1	1	0	1	1	1
1	0	1	0	0	0
1	0	0	1	0	1
0	1	1	0	0	0
0	1	0	1	0	1
0	0	1	0	0	0
0	0	0	1	0	1

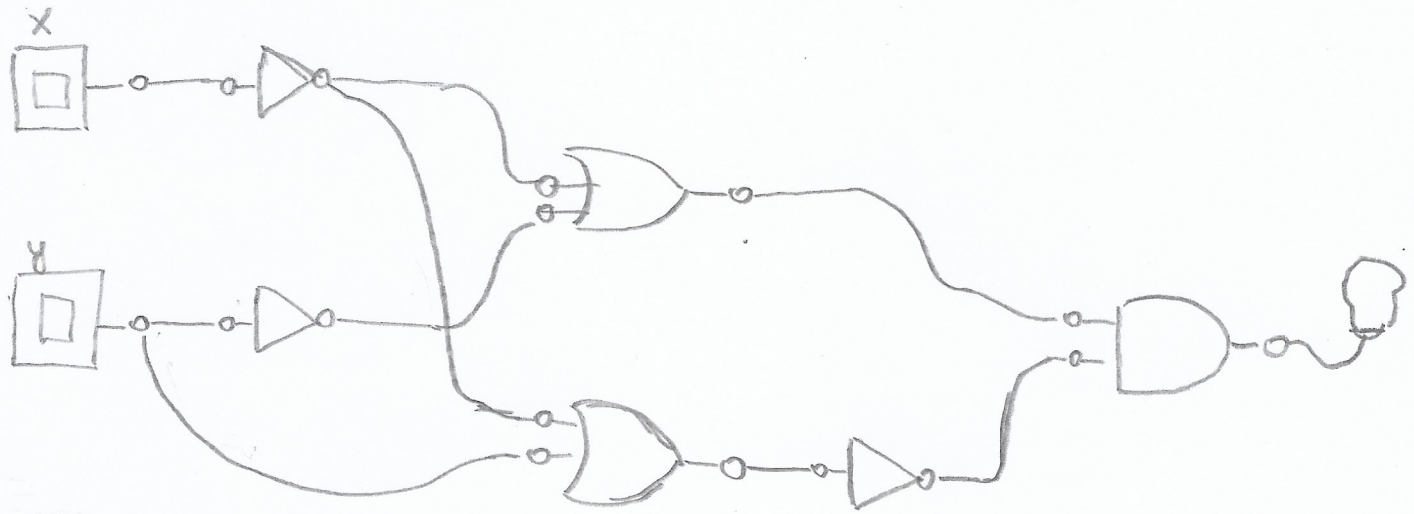
c) $f(x) = \sim x \wedge x$

x	$\sim x$	$\sim x \wedge x$
1	0	0
0	1	0

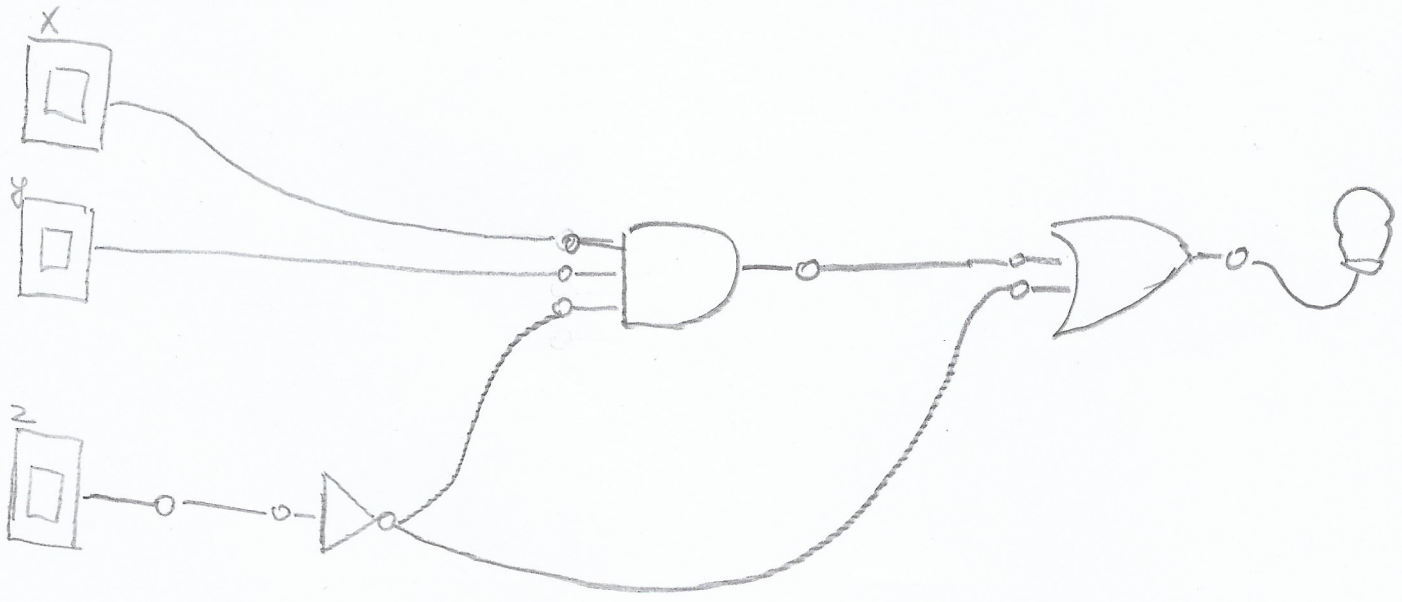
d) $f(x,y,z) = x \vee y \vee (\sim x \wedge \sim z)$

x	y	z	$\sim x$	$\sim z$	$(\sim x \wedge \sim z)$	$x \vee y \vee (\sim x \wedge \sim z)$
1	1	1	0	0	0	1
1	1	0	0	1	0	1
1	0	1	0	0	0	1
1	0	0	0	1	0	1
0	1	1	1	0	0	1
0	1	0	1	1	1	1
0	0	1	1	0	0	0
0	0	0	1	1	1	1

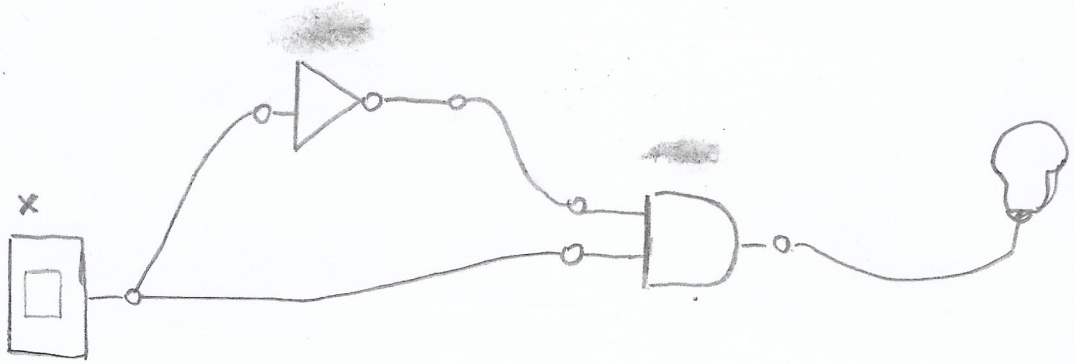
a) $f(x,y) = (\sim x \cup \sim y) \cap \sim(y \cup \sim x)$



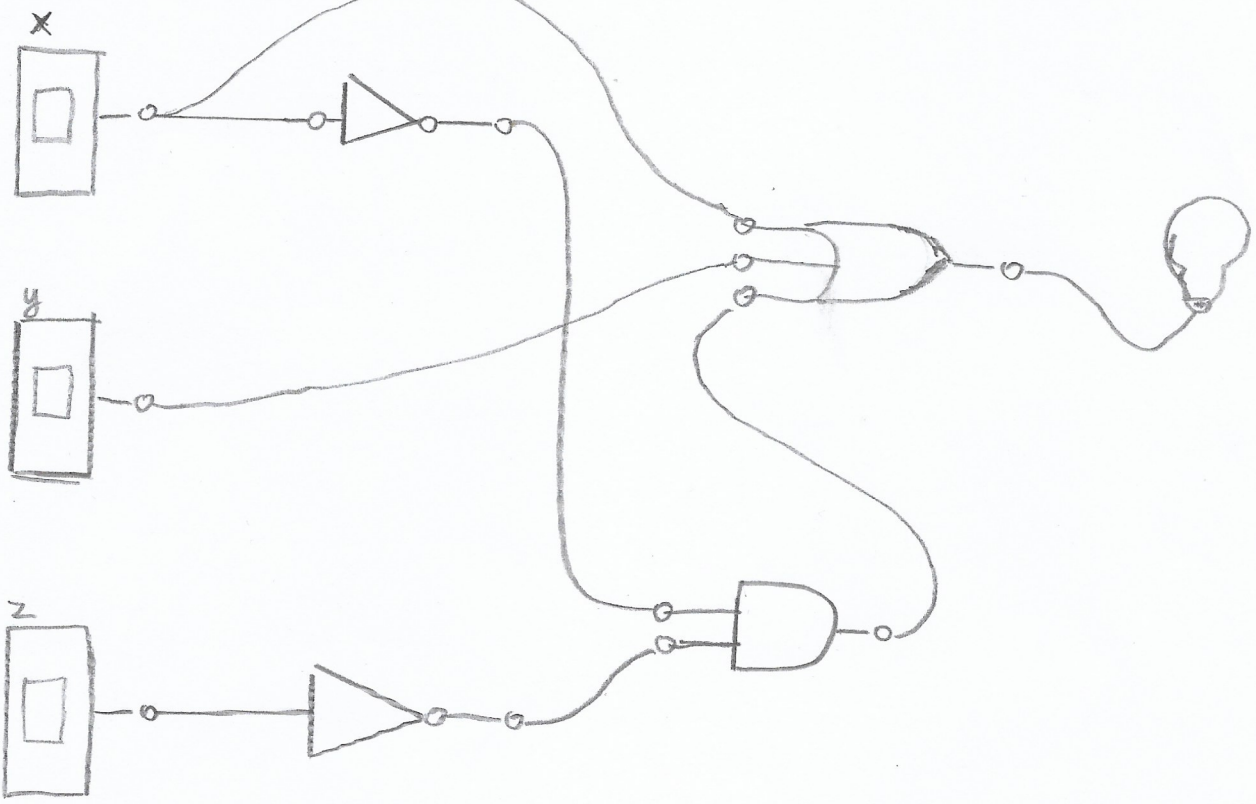
b) $f(x,y,z) = \sim z \cup (x \cap y \cap \sim z)$



c) $f(x) = \sim x \; n \; x$



d) $f(x, y, z) = x \; y \; (\sim x \; n \sim z)$



Zad. 3

$f(a,b,c) = \sim(a \wedge b \wedge c) \wedge (\sim a \vee \sim b \vee c) \wedge (a \wedge \sim c) \wedge (a \vee \sim b \vee c)$

a	b	c	output
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0