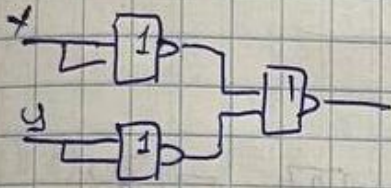


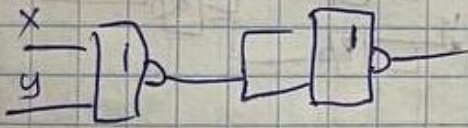
Баэне умм-не

$$\overline{x+y} = \overline{x} \cdot \overline{y}$$

1) И  $x \cdot y = \overline{\overline{x \cdot y}} = \overline{\overline{x+y}} = \overline{\overline{x+x} + \overline{y+y}}$



2) умм  $x+y = \overline{\overline{x+y}} = \overline{\overline{x+y} + \overline{x+y}}$

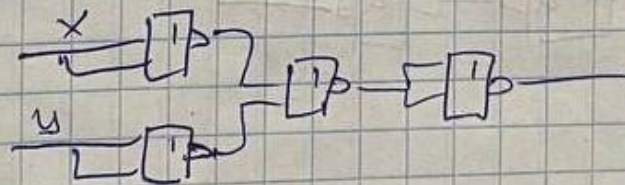


3) не  $\overline{x} = \overline{x+x}$



4) и-не  $\overline{x \cdot y} = \overline{x} + \overline{y} = \overline{\overline{x+y}} = \overline{\overline{x+x} + \overline{y+y}} +$

$\overline{\overline{x+x} + \overline{y+y}}$



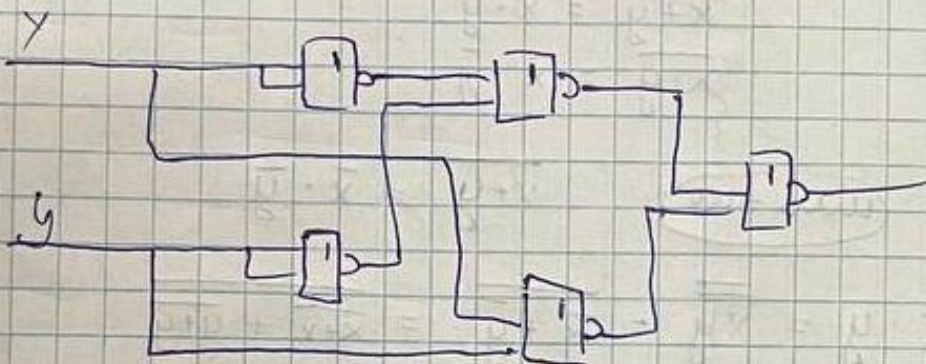
5) XOR (умм умм)

0	0	1
0	0	1
1	1	0

$$x\overline{y} + \overline{x}y =$$

$$= \overline{\overline{x+y}} + \overline{\overline{x+y}} = (\overline{x+y}) \cdot (\overline{x+y}) = \overline{\overline{xx} + \overline{\overline{x+y}} + \overline{xy} + \overline{xy}} =$$

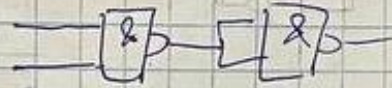
$$= \overline{x \cdot y + \overline{x} \cdot \overline{y}} = \overline{\overline{x+y} + \overline{x+y}} = \overline{\overline{x+x} + \overline{y+y}} + \overline{x+y}$$



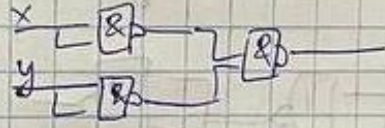


Базиc (и-не)  $\overline{xy}$

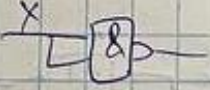
1) И  $xy = \overline{\overline{xy}} = \overline{\overline{xy} \cdot \overline{xy}}$



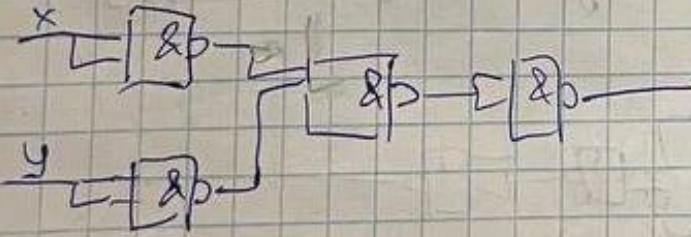
2) или  $x+y = \overline{\overline{x} \cdot \overline{y}} = \overline{\overline{xx} \cdot \overline{yy}}$



3) не  $\overline{x} = \overline{xx}$



4) или-не  $\overline{x+y} = \overline{\overline{\overline{xx}} \cdot \overline{\overline{yy}}} = \overline{\overline{\overline{xx}} \cdot \overline{\overline{yy}}}$



5) XOR  $x\overline{y} + \overline{x}y = \overline{\overline{x\overline{y}} \cdot \overline{\overline{x\overline{y}}}} = \overline{\overline{x \cdot \overline{yy}} \cdot \overline{\overline{xx} \cdot y}}$

