tugas pertemuan 11
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1. tabel kebenaran $F(x,y,z) = \bar{x}y + \bar{y}z$

x	y	z	$\bar{x}$	$\bar{y}$	$\bar{x}y$	$\bar{y}z$	$\bar{x}y + \bar{y}z$
1	1	1	0	0	0	0	0
1	1	0	0	0	0	0	0
1	0	1	0	1	0	1	1
0	1	1	1	0	1	0	1
1	0	0	0	1	0	0	0
0	1	0	1	0	1	0	1
0	0	1	1	1	0	1	1
0	0	0	1	1	0	0	0

2. tunjukkan bahwa $x\bar{y} + y\bar{z} + \bar{x}\bar{z} = \bar{x}y + \bar{y}z + x\bar{z}$

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

$(\bar{x}\bar{y} + y\bar{z} + \bar{x}z) = (\bar{x}y + \bar{y}z + xz)$ De Morgan's laws

$(\bar{x}+y)(\bar{y}+z)(x+\bar{z}) = ((z+\bar{x})(\bar{y}+x))(\bar{z}+y)$

$(\bar{x}\bar{y} + z\bar{y} + \bar{y}y + z\bar{z} + z\bar{x} + y\bar{x})(\bar{z}+x) = (xy + \bar{z}x + z\bar{y} + y\bar{y})(\bar{x}+z)$

$(\bar{x}\bar{y}x + \bar{x}\bar{y}\bar{z} + z\bar{y}x + \bar{z}\bar{y}\bar{z} + x\bar{y}x + x\bar{y}\bar{z} + z\bar{z}\bar{x} + z\bar{x}\bar{x} + \bar{z}\bar{y}\bar{x} + x\bar{x}\bar{z}) =$

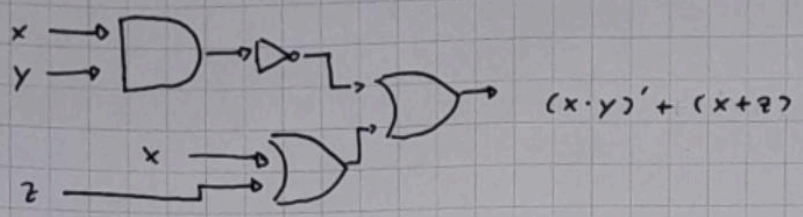
$(xy\bar{x} + z\bar{x}\bar{y} + x\bar{y}\bar{z} + z\bar{y}\bar{z} + \bar{z}\bar{y}x + z\bar{x}\bar{z})$

$(0 + \bar{x}\bar{y}\bar{z} + 0+0+0+0+0+0) = (0 + xyz + 0+0+0+0+0+0)$ zero property

$\bar{x}\bar{y}\bar{z} + xyz = xyz + \bar{x}\bar{y}\bar{z}$ commutative laws

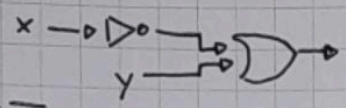
3. bentuk sum of product dari
   a. $F(x,y,z) = \bar{x}y + \bar{y}z$
   $= \bar{x}y(1) + \bar{y}z(1)$
   $= \bar{x}y(z+\bar{z}) + \bar{y}z(x+\bar{x})$
   $= \bar{x}yz + \bar{x}y\bar{z} + \bar{y}zx + \bar{y}z\bar{x}$

   b. $F(x,y,z) = x\bar{y} + y\bar{z} + \bar{x}z$
   $= x\bar{y}(1) + y\bar{z}(1) + \bar{x}z(1)$
   $= x\bar{y}(z+\bar{z}) + y\bar{z}(x+\bar{x}) + \bar{x}z(y+\bar{y})$
   $= x\bar{y}z + x\bar{y}\bar{z} + xy\bar{z} + \bar{x}y\bar{z} + \bar{x}\bar{y}z + \bar{x}yz$

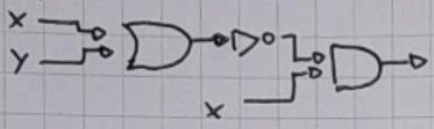
1. 

$(x \cdot y)' + (x + z)$

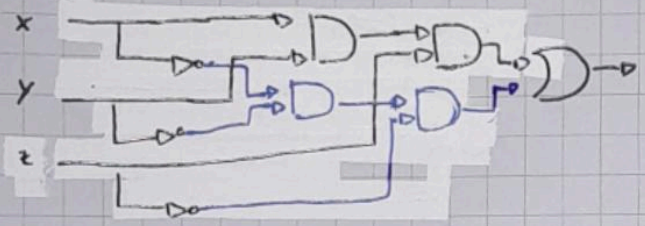
2a. $\bar{x} + y$



b. $(\overline{x+y})x$



c. $xyz + \bar{x}\bar{y}\bar{z}$



a. $\overline{(\bar{x}+z)(y+\bar{z})}$