
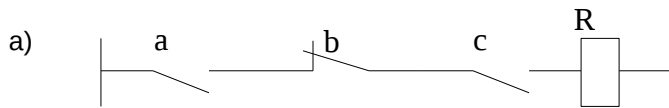
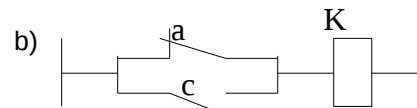
 RÉGION ACADÉMIQUE AUVERGNE-RHÔNE-ALPES 	Séquence 5	<i>IT+I2D</i>
	« Comment la simulation permet de valider le comportement d'un système ? »	
	les systèmes logiques combinatoires	
	TD1	

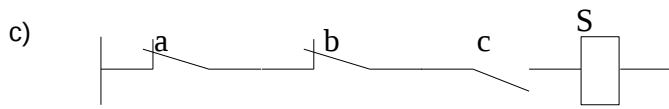
Exercice 1 : Transcrire un schéma électrique en équation



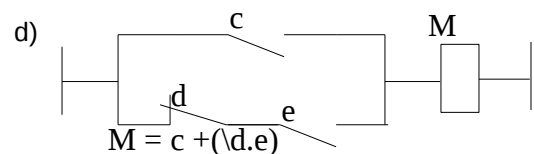
$$R = a \cdot b \cdot c$$



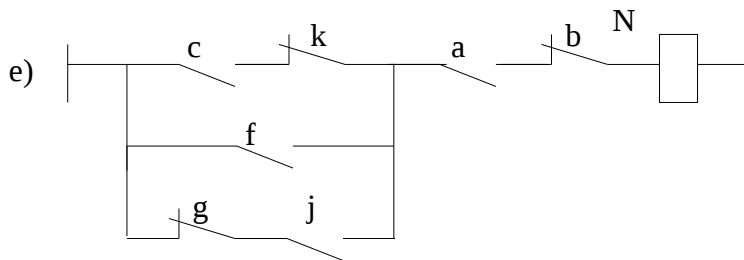
$$K = a + c$$



$$S = a \cdot b \cdot c$$



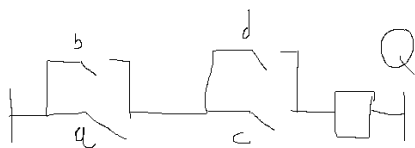
$$M = c + (d \cdot e)$$



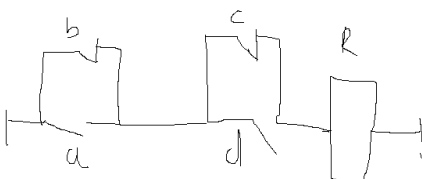
$$N = ((c \cdot k) + f + (g \cdot j)) \cdot a \cdot b$$

Exercice 2 : Transcrire une équation en schéma électrique

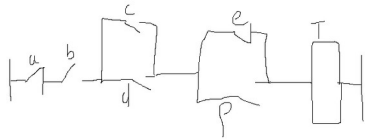
a) $Q = (a + b) \cdot (c + d)$



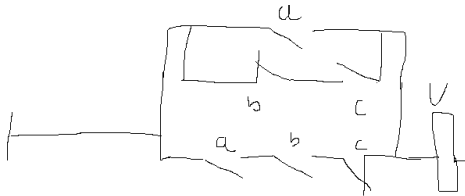
b) $R = (a + b) \cdot (c + d)$



c) $T = /a \bullet b \bullet (c + d) \bullet (/e + f)$



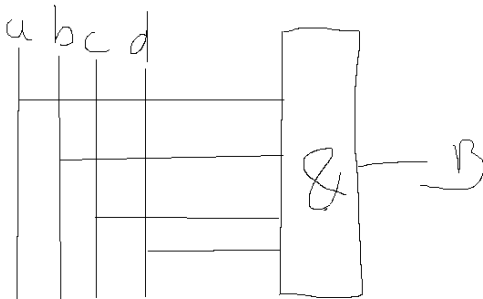
d) $V = a + (/b \bullet c) + a \bullet (b \bullet /c)$



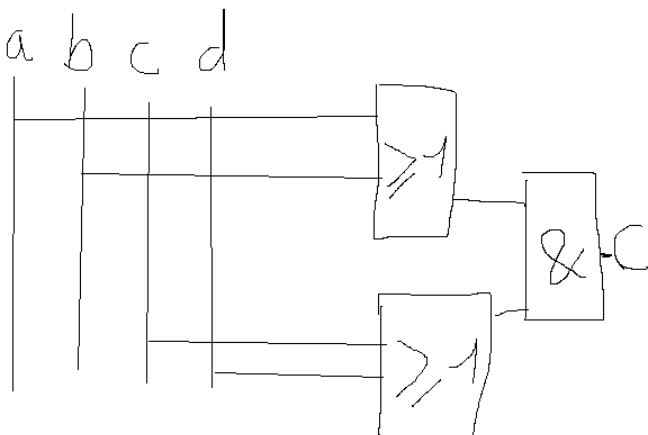
Exercice 3 : Transcrire une équation en logigramme

Utiliser uniquement des portes ET et des portes OU à 2 entrées, et éventuellement des portes NON.

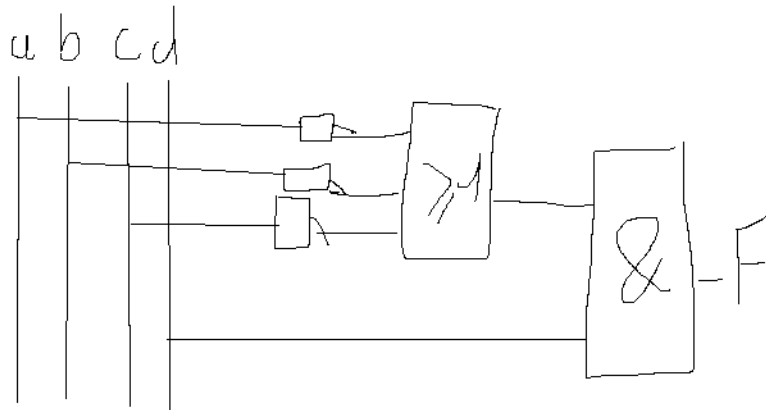
a) $B = a \bullet b \bullet c \bullet d$



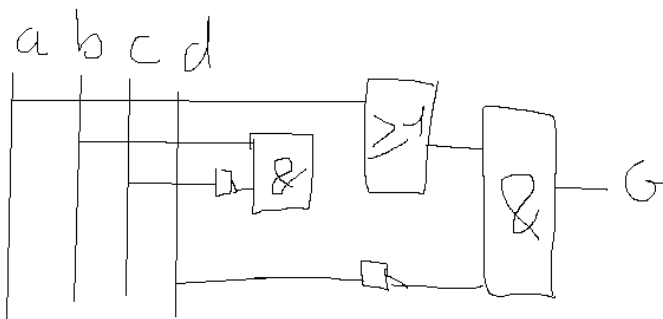
b) $C = (a + b) \bullet (c + d)$



c) $F = (\neg a + \neg b + \neg c) \cdot \neg d$

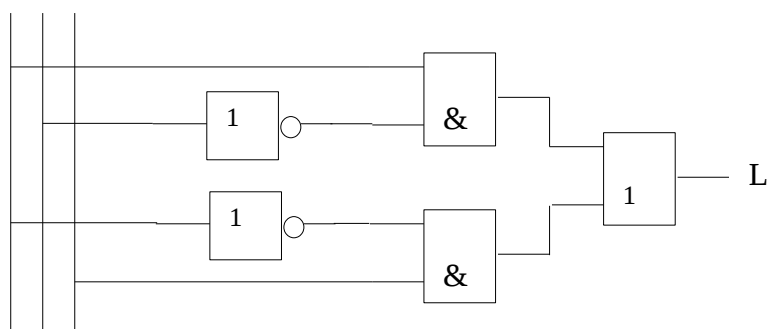


d) $G = [a + (b \cdot \neg c)] \cdot \neg d$



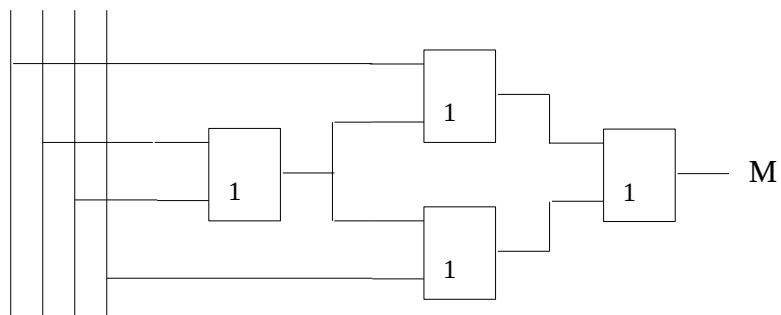
Exercice 4 : Transcrire un logigramme en équation

a) a b c



$$L = (a/b) + (/a.c)$$

b) a b c d



$$M = [a+(b+c)] + [d+(b+c)]$$