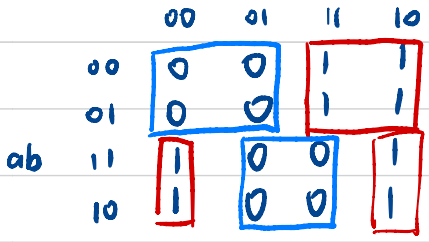
CI - Tutorial - 6.

Exercise 1

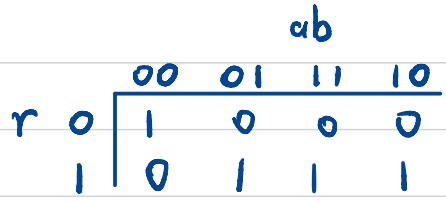


(a) Block of 1s : $(\neg a \wedge c) \vee (a \wedge \neg d)$ -- DNF

(b) Block of 0s : $\neg((\neg a \wedge \neg c) \vee (a \wedge d))$

$\Rightarrow (a \vee c) \wedge (\neg a \vee \neg d)$ -- CNF

Exercise 2.



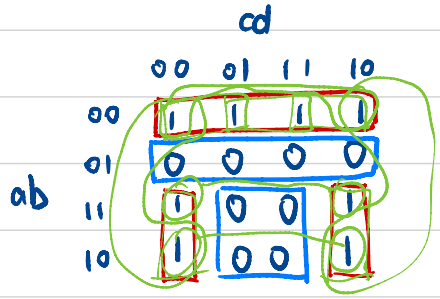
$(\neg r \wedge \neg a \wedge \neg b) \vee (r \wedge b) \vee (r \wedge a)$

$= (\neg r \wedge \neg a \wedge \neg b) \vee (r \wedge (a \vee b))$

$= \neg(r \vee a \vee b) \vee (r \wedge (a \vee b))$

Exercise 3.

(a) $a \vee \neg b \,.\, \neg a \vee \neg d = \neg((\neg a \wedge b) \vee (a \wedge d))$



(b) $\varphi = (\neg a \wedge \neg b) \vee (a \wedge \neg d)$

~~I can find. $2^8 - 1 = 255$ different δ~~

block of 1 → 8.

block of 2 → 10.

block of 4 → 2

→ different δs → $8 + 10 + 2 = 20$.

$\Rightarrow 20 - 1 = 19$.