20195633-李燕琴-作业 2

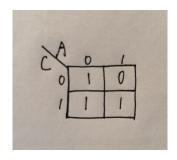
1) 写出逻辑函数 F = AC + BD + ABC 的最小项表示形式。

F = AC+B!D+!ABC

- = AC (BD+!BD+!B!D+B!D) + B!D (AC+!AC+!A!C+A!C) + !ABC (D+!D)
- =ABCD+ABC!D+A!BC!D+A!BCD+AB!C!D+!AB!C!D+!ABC!D+!ABCD
- 2) 将函数 F = (A+/C)C+/A 标注在 K-map 中。

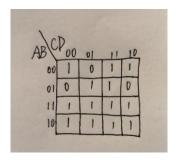
$$F = (A+!C) C + !A$$

= $AC + !AC + !A!C$



3) 将函数 F = A + BD + /BC + /B/D 标注在 K-map 中。

$$F = A + BD + !BC + !B!D$$



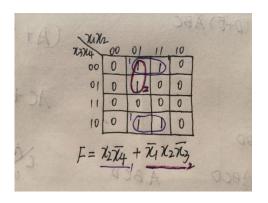
4) 利用 K-map 简化逻辑函数为其"与或"

(1)
$$F = \sum m4$$
 (0, 1, 2, 5, 7, 8, 9, 10, 13, 15)

$$F = \overline{I_{2}}\overline{I_{4}} + \overline{I_{2}}\overline{I_{3}} + \overline{I_{3}}X_{4} + \overline{I_{4}}X_{2}X_{4} + \overline{I_{4}}X_{2$$

$$F = !x_2!x_4 + !x_2!x_3 + !x_3x_4 + !x_1x_2x_4 + x_1x_3!x_4$$

(2) $F = \Sigma m4$ (4, 5, 6, 12, 14)



$$F = x_2!x_4 + !x_1x_2!x_3$$