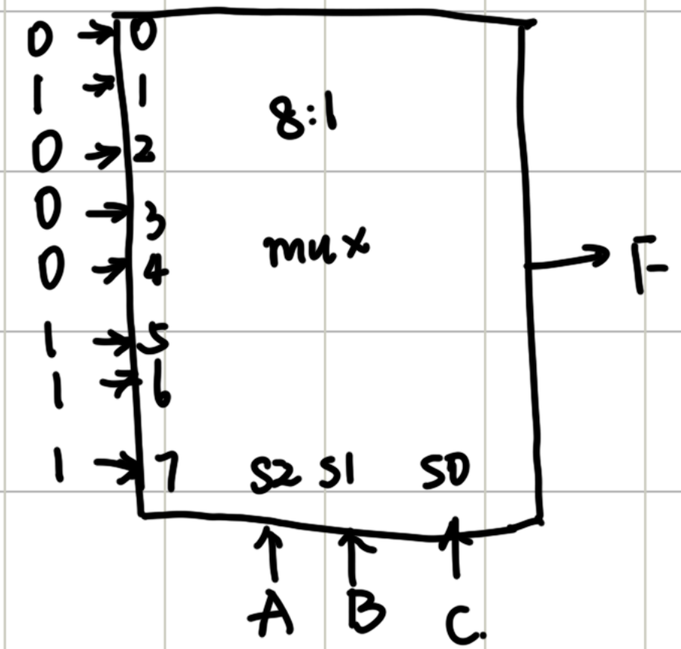
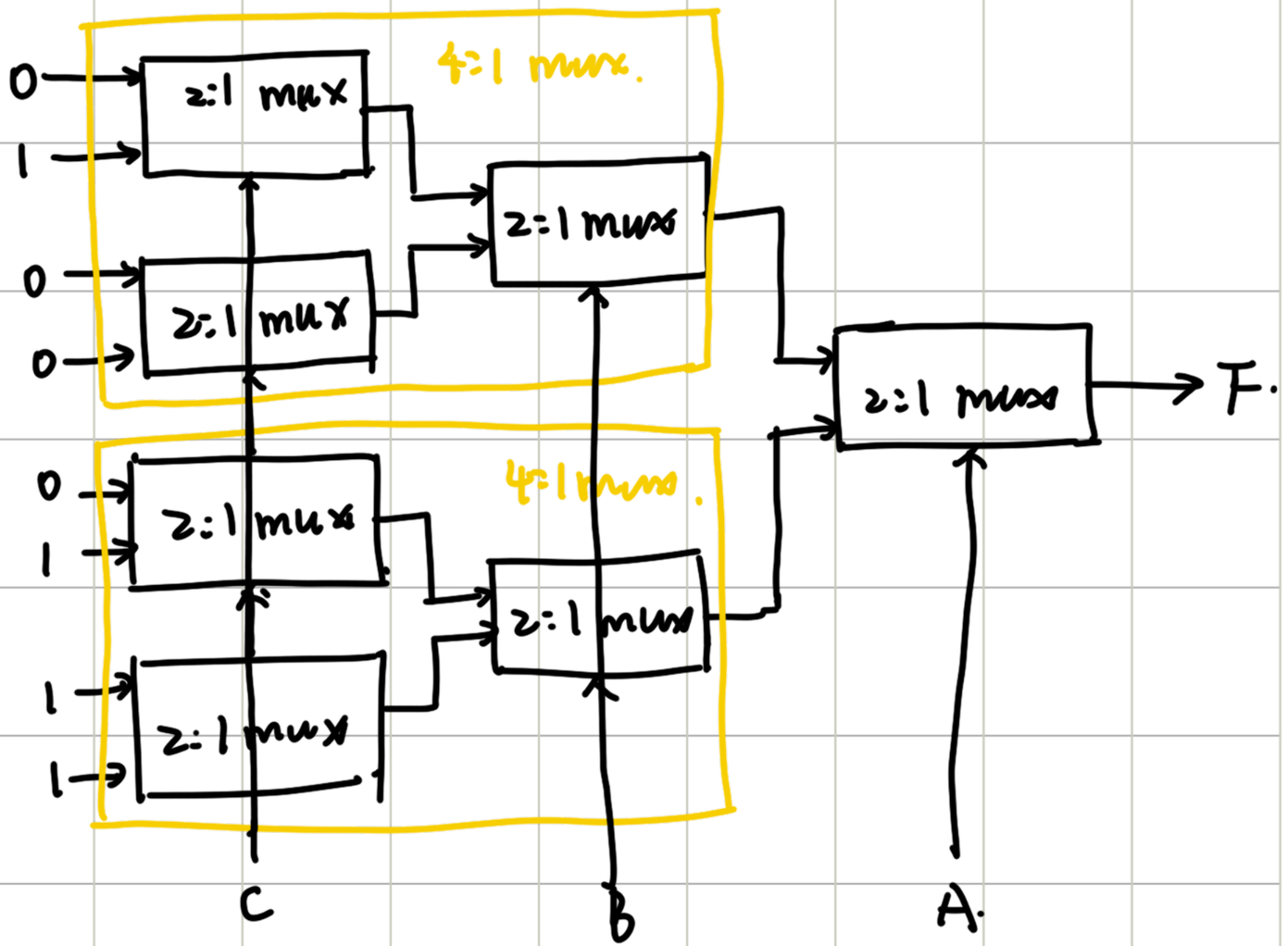
2300012929 尹锦润

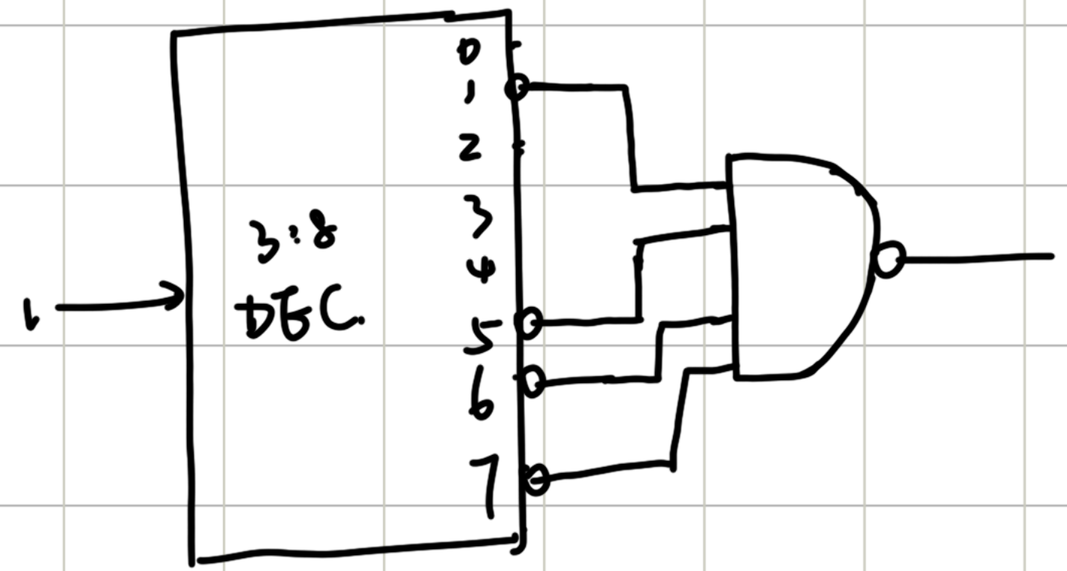
1. a)




b)



c)




2.

| AB / CD | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 00 | 1 | 1 | 0 | 1 |
| 01 | 0 | 0 | 0 | 1 |
| 11 | 0 | 0 | 0 | 0 |
| 10 | 1 | 0 | 0 | 1 |

- 積之和 = $A'C'D' + AB'C + B'CD'$
- 和之積 = $(A'+B'+C)(A+D')(A'+C'+D')$ $(B'+C'+D)$

3.

$Y = A'B' + A'BC' + (A + C')'$

| | A | B | C | Y |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 1 | 1 |
| 2 | 0 | 1 | 0 | 1 |
| 3 | 0 | 1 | 1 | 1 |
| 4 | 1 | 0 | 0 | 0 |
| 5 | 1 | 0 | 1 | 0 |
| 6 | 1 | 1 | 0 | 0 |
| 7 | 1 | 1 | 1 | 0 |

| C \ AB | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 0 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 |

$Y = A'$

4. $Y(A,B,C,D) = \prod M(0,3,7,12) \cdot D(2,10,11,14)$

$= A'BC' + AB'D' + B'C'D + ABD + A'CD'$

| CD \ AB | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 00 | 0 | 1 | 0 | 1 |
| 01 | 1 | 1 | 1 | 1 |
| 11 | 0 | 0 | 1 | X |
| 10 | X | 1 | X | X |