5/2

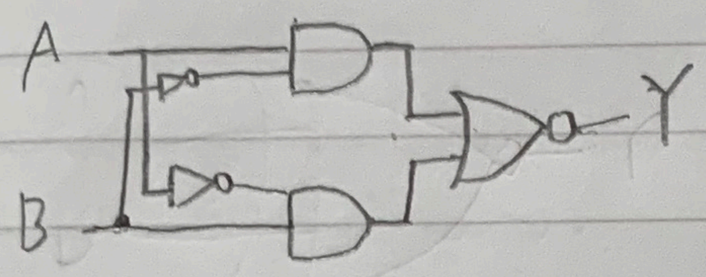
2057/3B

Date

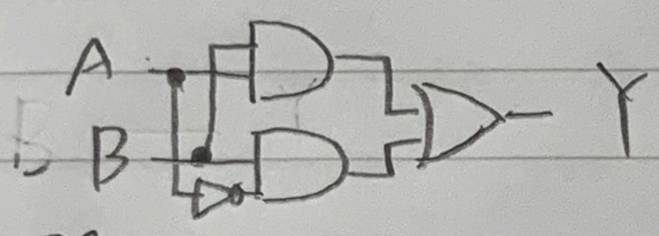
朝比奈太郎

演習①

(1) $Y = \overline{\overline{A}\cdot B + A\cdot\overline{B}} = \overline{A \oplus B}$



(2) $Y = A\cdot B + \overline{A}\cdot B$



演習②

Y_1 真理値表　　論理関数

A	B	Y_1
0	0	0
0	1	1
1	0	1
1	1	0

$Y_1 = \overline{A}\cdot B + A\cdot\overline{B}$

Y_2 真理値表　　論理関数

A	B	Y_2
0	0	0
0	1	1
1	0	1
1	1	0

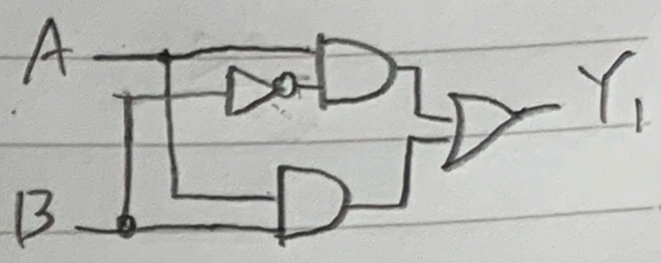
$Y_2 = \overline{(A\cdot\overline{(A\cdot B)}\cdot B\overline{(A\cdot B)})}$

演習③

Y_1 真理値表

A	B	Y_1
0	0	0
0	1	0
1	0	1
1	1	1

論理回路

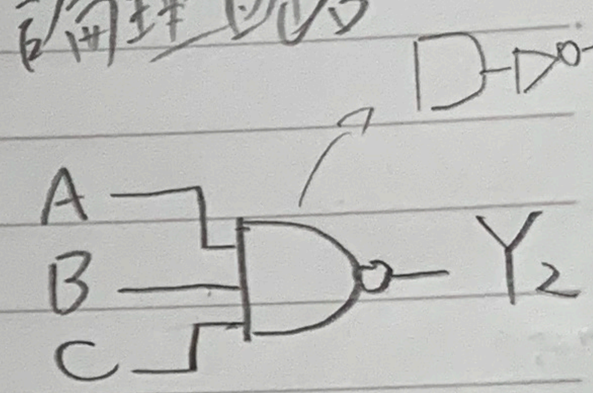


$Y_1 = A\cdot B + A\cdot\overline{B} = A$

Y_2 真理値表

A	B	C	Y_2
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

論理回路



③より

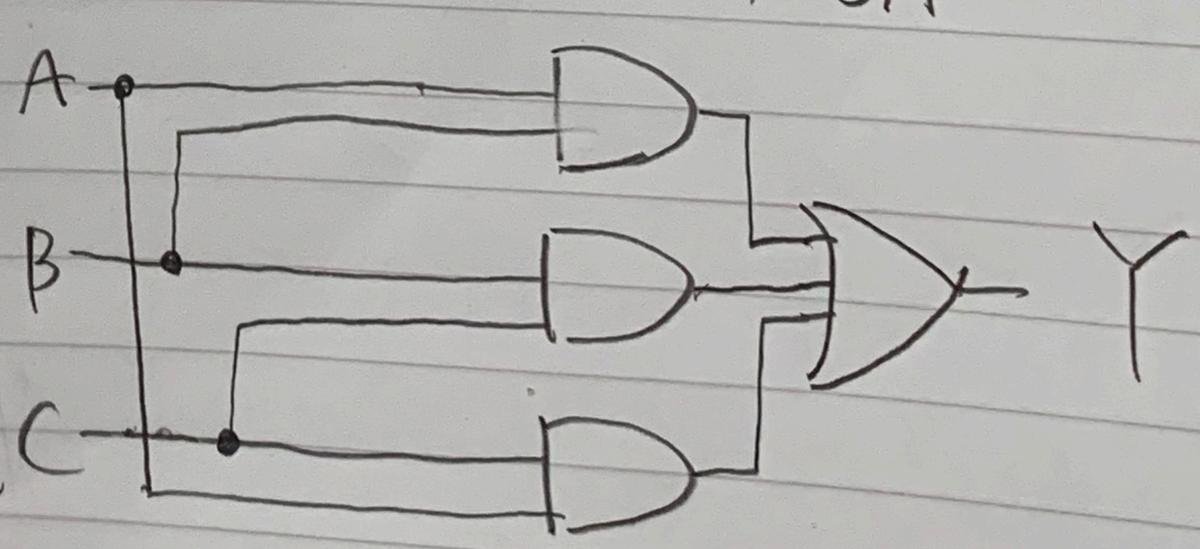
$Y_2 = \overline{A\cdot B\cdot C}$

演習④

論理関数

$Y = \overline{A}BC + A\overline{B}C + AB\overline{C} + ABC$

$= AB + BC + CA$



演習⑤

$Y_1 = A\cdot B + A\cdot\overline{B} = A$

$Y_2 = \overline{A}\cdot\overline{B}\cdot C + \overline{A}\cdot B\cdot\overline{C} + A\cdot\overline{B}\cdot\overline{C} + A\cdot B\cdot C$

$= \overline{A}(\overline{B}\cdot C + B\cdot\overline{C}) + A(\overline{B}\cdot C + B\cdot C)$

$= \overline{A}(\overline{B\cdot C}) + A(\overline{B\cdot C})$

$= \overline{A\cdot B\cdot C}$