

עינן חישוב

אלגוריתם פוליהר

00
01
10
11

תבונת
תבונת
תבונת
תבונת

תבונת
1
0
תבונת
1
0

| A | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| 00 | | | | |
| 01 | | | | |
| 10 | | | | |
| 11 | | | | |

| B | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| 00 | 1 | 1 | 1 | 1 |
| 01 | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 1 | 1 | 1 | 1 |

$$B = y \cdot y'$$

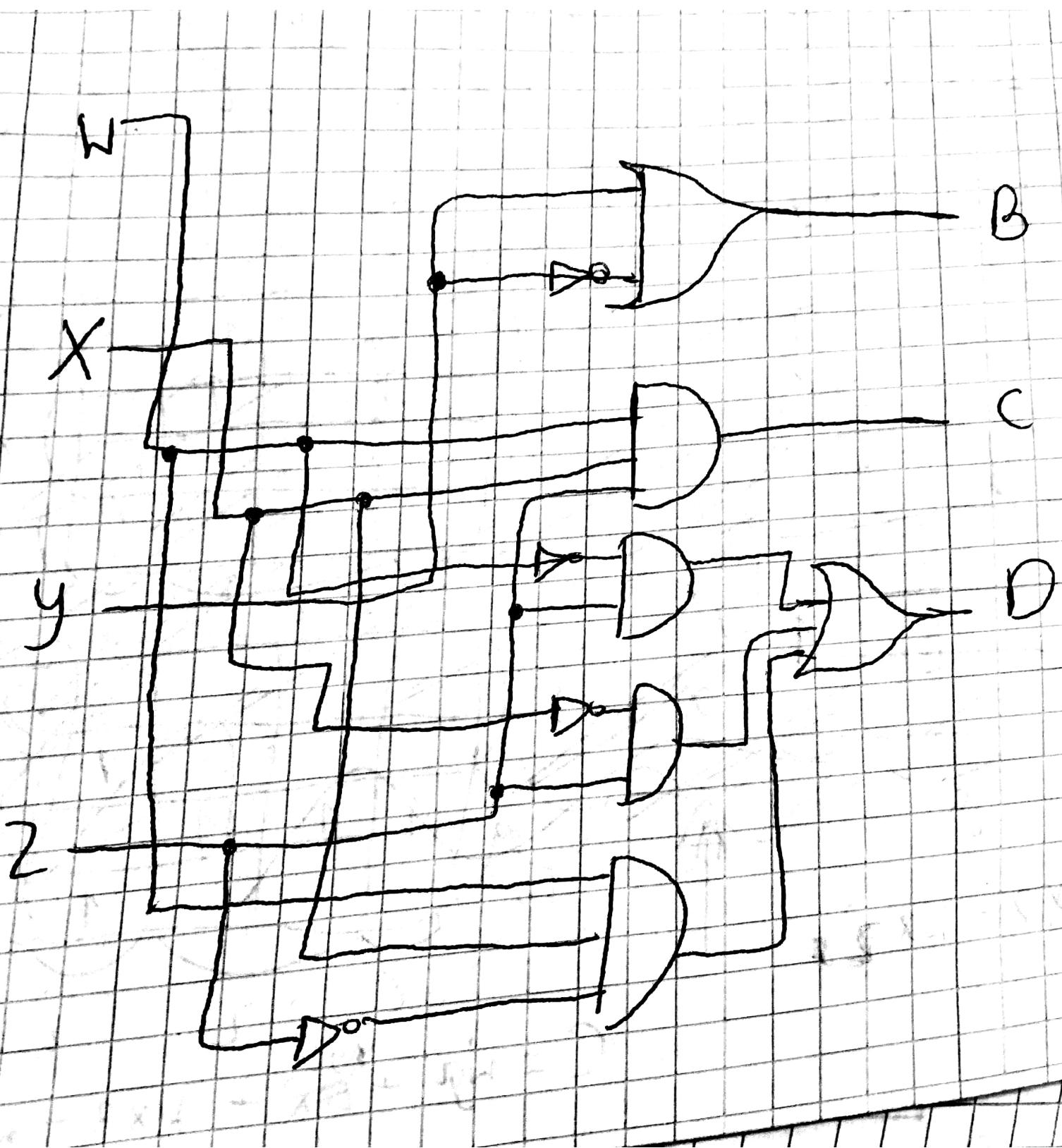
| C | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| 00 | | | | |
| 01 | | | | |
| 11 | | 1 | 1 | |
| 10 | | | | |

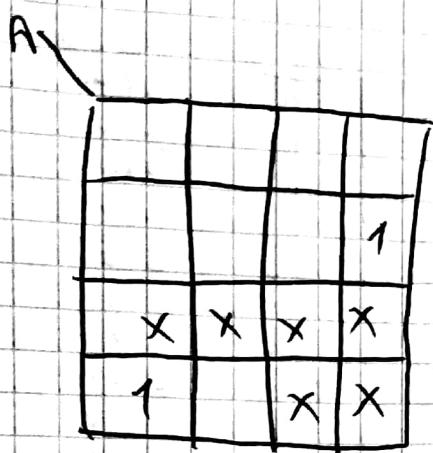
$$C = W \cdot X^2$$

| D | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| 00 | 1 | 1 | | |
| 01 | 1 | 1 | | |
| 11 | 1 | | 1 | |
| 10 | 1 | 1 | | |

$$D = W^2 + X^2 - W \cdot X^2$$

| W | X | Y | Z | ABCD |
|----|---|---|---|------|
| 00 | 0 | 0 | 0 | 0100 |
| 00 | 0 | 1 | 1 | 0101 |
| 00 | 1 | 0 | 0 | 0110 |
| 00 | 1 | 1 | 1 | 0111 |
| 01 | 0 | 0 | 0 | 0100 |
| 01 | 0 | 1 | 0 | 0101 |
| 01 | 1 | 0 | 0 | 0110 |
| 01 | 1 | 1 | 1 | 0111 |
| 10 | 0 | 0 | 0 | 0101 |
| 10 | 0 | 1 | 1 | 0100 |
| 10 | 1 | 0 | 0 | 0101 |
| 10 | 1 | 1 | 1 | 0111 |
| 11 | 0 | 0 | 0 | 0110 |
| 11 | 0 | 1 | 1 | 0101 |
| 11 | 1 | 0 | 0 | 0110 |
| 11 | 1 | 1 | 1 | 1111 |





$$A = w^2 + xy^2'$$

000
001
010
011
100

1
2
3
4
5

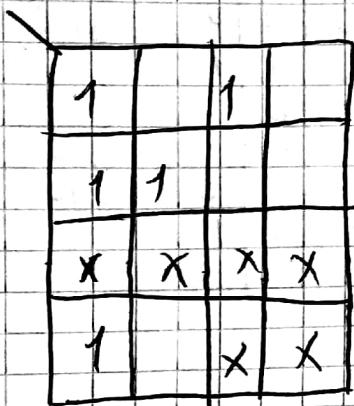
172) G $\sum m$

6
1

ABCD

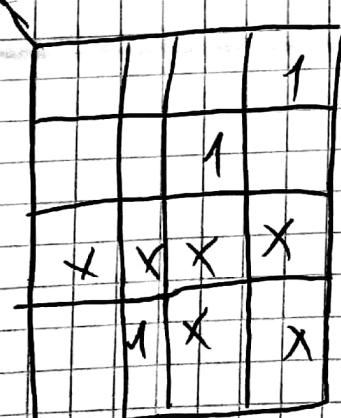
0010
0001
0100
0010
0110
0011
1000
0100
1010
1011

| wxyz | 2 |
|------|---|
| 0000 | 0 |
| 0001 | 1 |
| 0010 | 0 |
| 0011 | 1 |
| 0100 | 0 |
| 0101 | 1 |
| 0110 | 0 |
| 0111 | 1 |
| 1000 | 0 |
| 1001 | 1 |



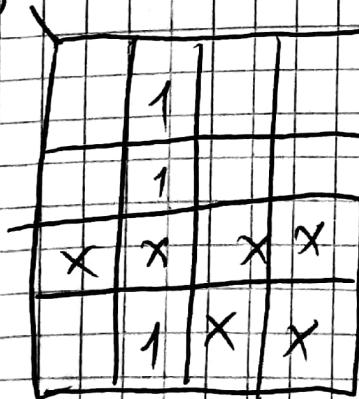
$$B = \bar{y}^2 + \bar{y}x + \bar{x}y^2$$

| | | |
|------|---|---|
| 1010 | 0 | X |
| 101 | 1 | X |
| 110 | 0 | X |
| 110 | 1 | X |
| 111 | 0 | X |
| 111 | 1 | X |

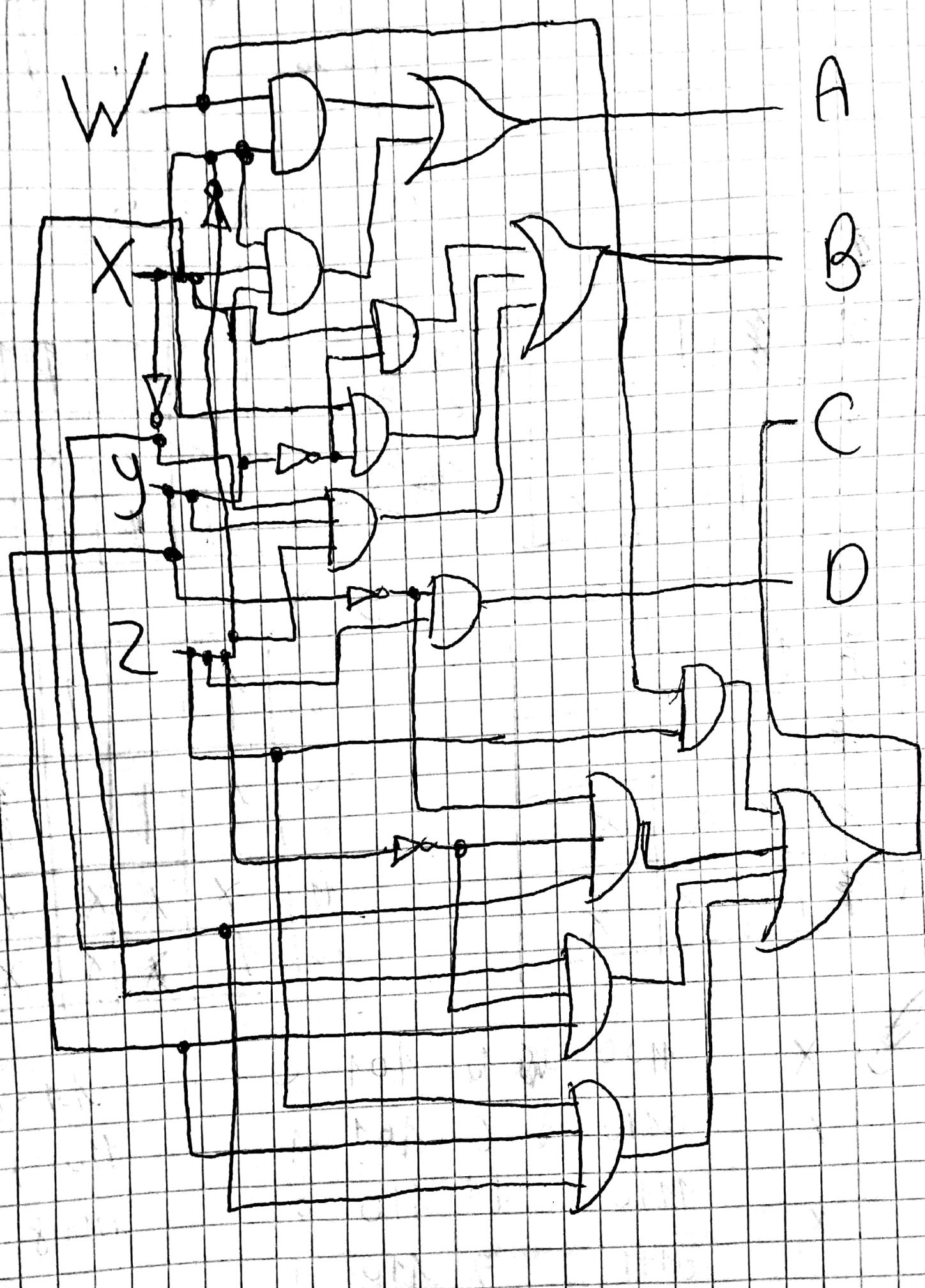


$$C = w^2 + xy^2 + y\bar{x}z + \bar{x}yz$$

| | | |
|-----|---|---|
| 111 | 0 | X |
| 111 | 1 | X |

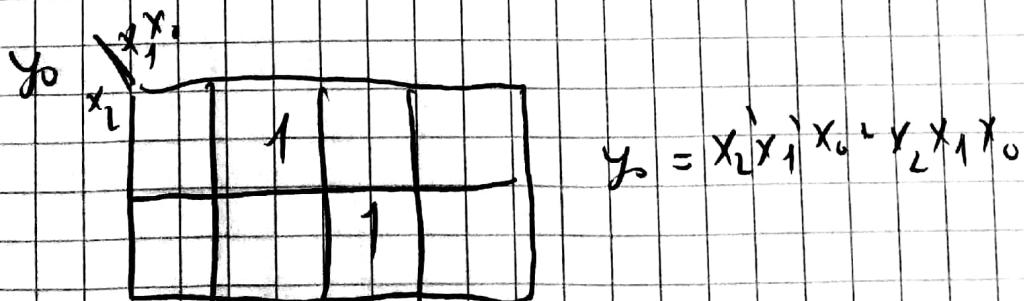
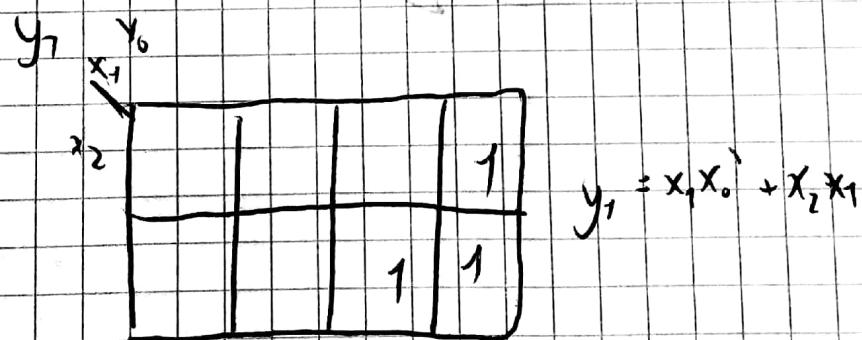
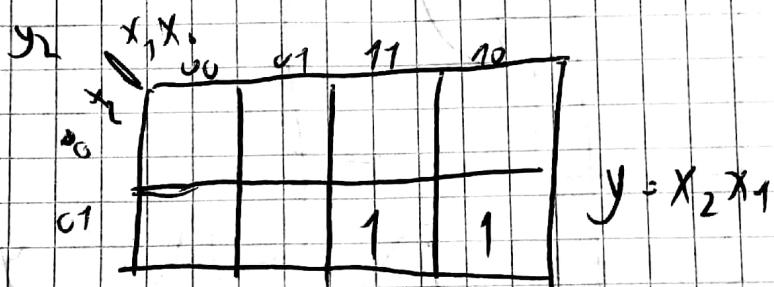


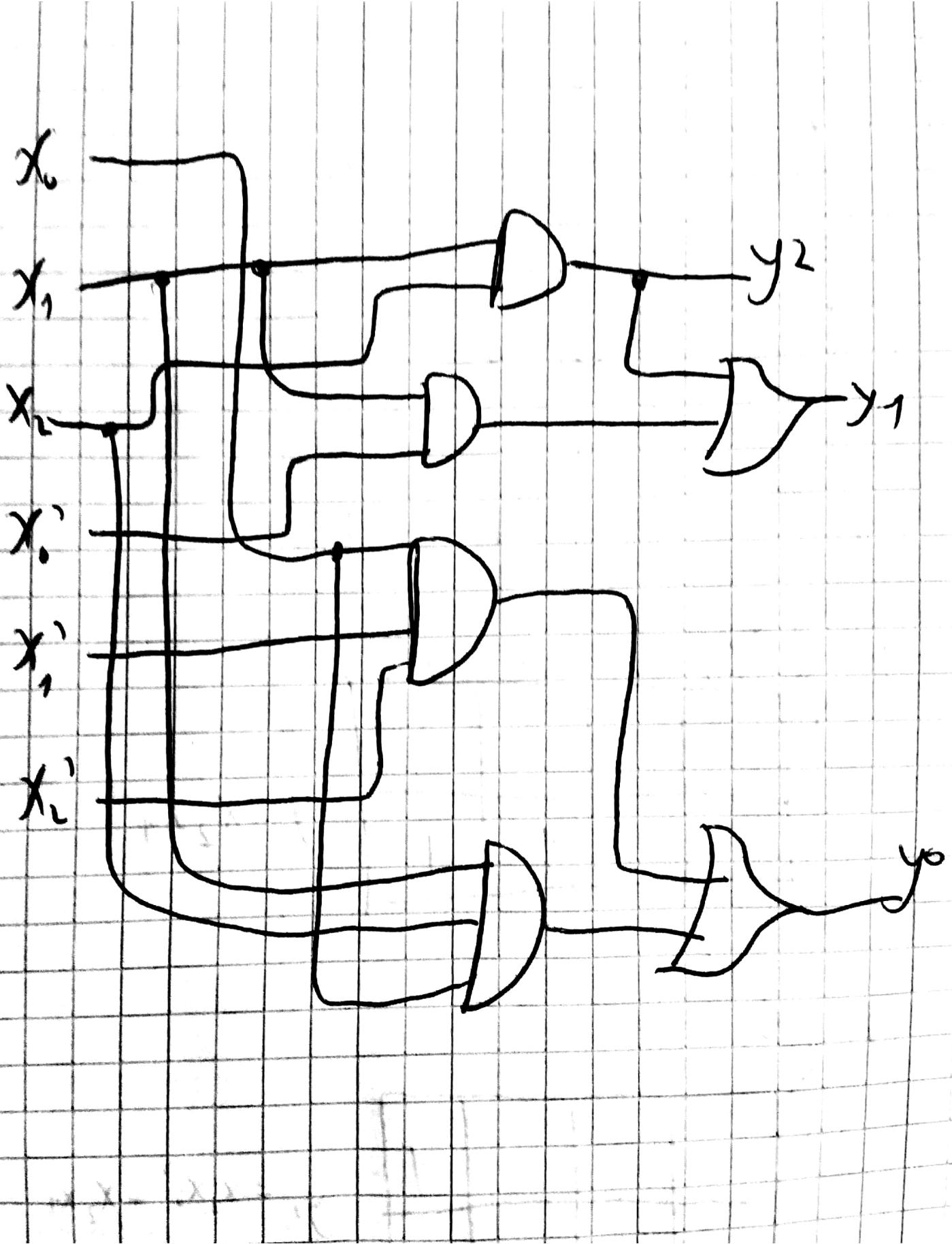
$$D = \bar{y}^2$$



(3)

| x_2 | x_1 | x_0 | y_2 | y_1 | y_0 |
|-------|-------|-------|-------|-------|-------|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 |





exer 3 Clp (c) 4

2421 Clp

| Wxyz | A B C D |
|------|---------|
| 0011 | 0 0 0 0 |
| 0100 | 0 0 1 1 |
| 0101 | 0 1 0 0 |
| 0110 | 0 1 1 1 |
| 0111 | 0 1 0 0 |
| 1000 | 0 1 0 1 |
| 1001 | 0 1 1 0 |
| 1010 | 0 1 1 1 |
| 1011 | 1 0 0 0 |
| 1100 | 1 0 0 1 |
| 1101 | 1 0 1 0 |
| 1110 | 1 0 1 1 |
| 1111 | 1 1 0 0 |
| | 1 1 0 1 |
| | 1 1 1 0 |
| | 1 1 1 1 |

A

| | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| 00 | X | X | | X |
| 01 | | | | |
| 11 | 1 | X | X | X |
| 10 | | | | 1 |

(?)

$$A = W \bar{X} + W Y Z$$

B

| | | | |
|---|---|---|---|
| X | X | | X |
| 1 | X | X | X |
| 1 | 1 | 1 | 1 |

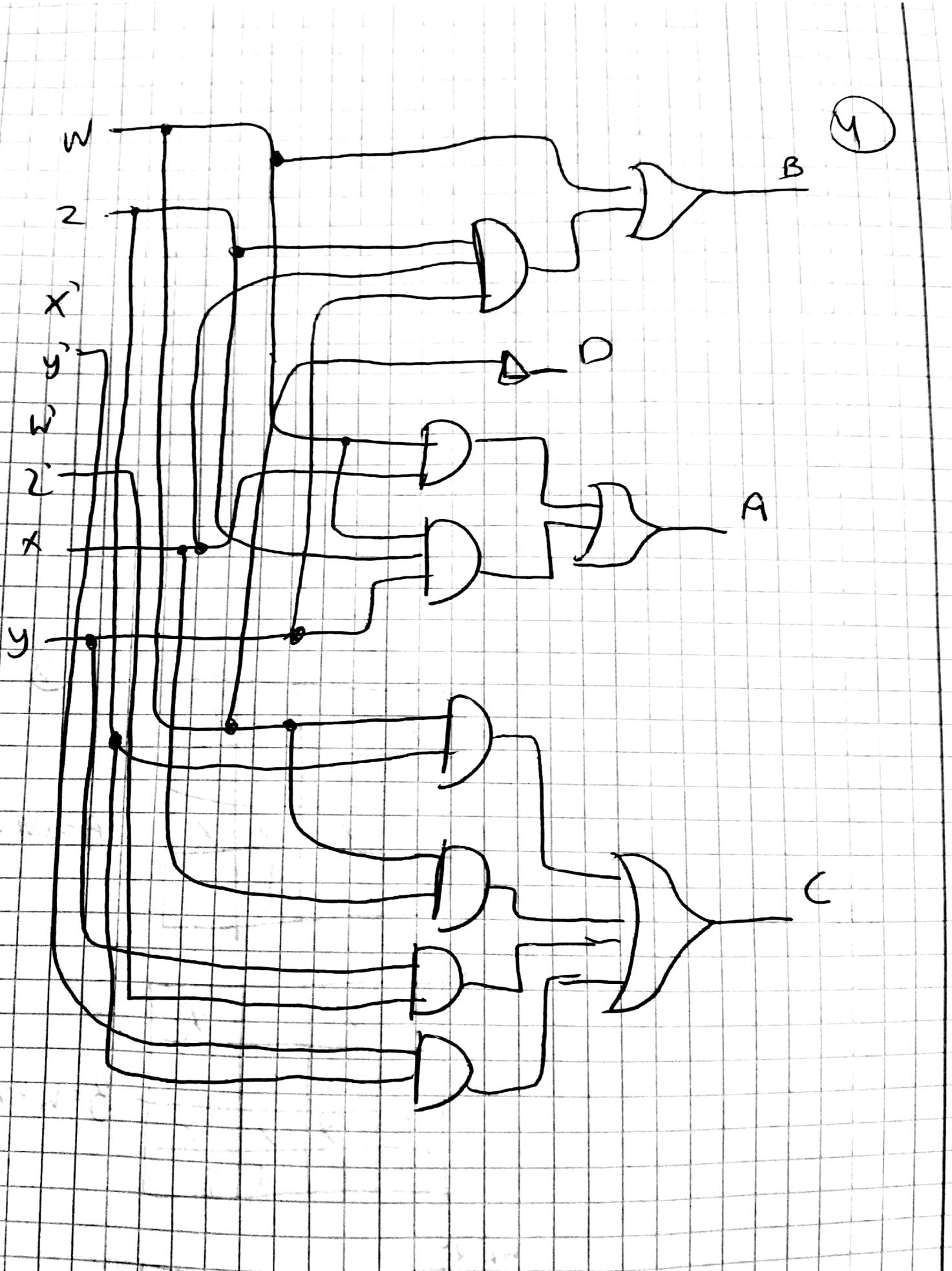
$$B = W \bar{Y} X \bar{Z}$$

W Z Y Z

| | | | |
|---|---|---|---|
| X | X | | X |
| 1 | | 1 | 1 |
| 1 | X | X | X |

$$C = W \bar{X} Y Z + W \bar{X} \bar{Y} Z$$

$$D = ?$$



(5)

Wyz
 0000
 0001
 0010

ABCD EFG
 xx xx xx xx
 xx x x x x x
 xx x x x x x
 0011 1111110
 0100 01100000
 0101 1101101
 0110 1111001
 0111 0110011
 1000 1011011
 1001 1011111
 1010 1110000
 1011 1111111
 1100 1110011
 1101 xx xx xx xx
 1110 xxxxx x x
 1111 xx xx xx x

D

| | | | |
|---|---|---|---|
| x | x | 1 | x |
| | 1 | | 1 |
| | x | x | x |
| 1 | 1 | | |

$$D = yz + xz + xyz' + x'y'$$

E

| | | | |
|---|---|---|---|
| x | x | 1 | x |
| | 1 | | |
| | x | x | x |
| 1 | 1 | | |

$$E = yz + x'z$$

F

| | | | |
|---|---|---|---|
| x | x | 1 | x |
| | 1 | | |
| 1 | x | x | x |
| 1 | 1 | 1 | |

$$F = yz + wxy$$

G

| | | | |
|---|---|---|---|
| x | x | | x |
| | 1 | 1 | 1 |
| x | x | x | x |
| 1 | 1 | 1 | |

$$g = wy^2 + yz^2 + xy^2 + wz$$

A

| | | | |
|----|----|----|----|
| 00 | 01 | 11 | 1x |
| x | x | 1 | x |
| | 1 | | 1 |
| 1 | x | x | x |
| 1 | 1 | 1 | 1 |

$$A = w + yz + x' + y^2 z$$

B

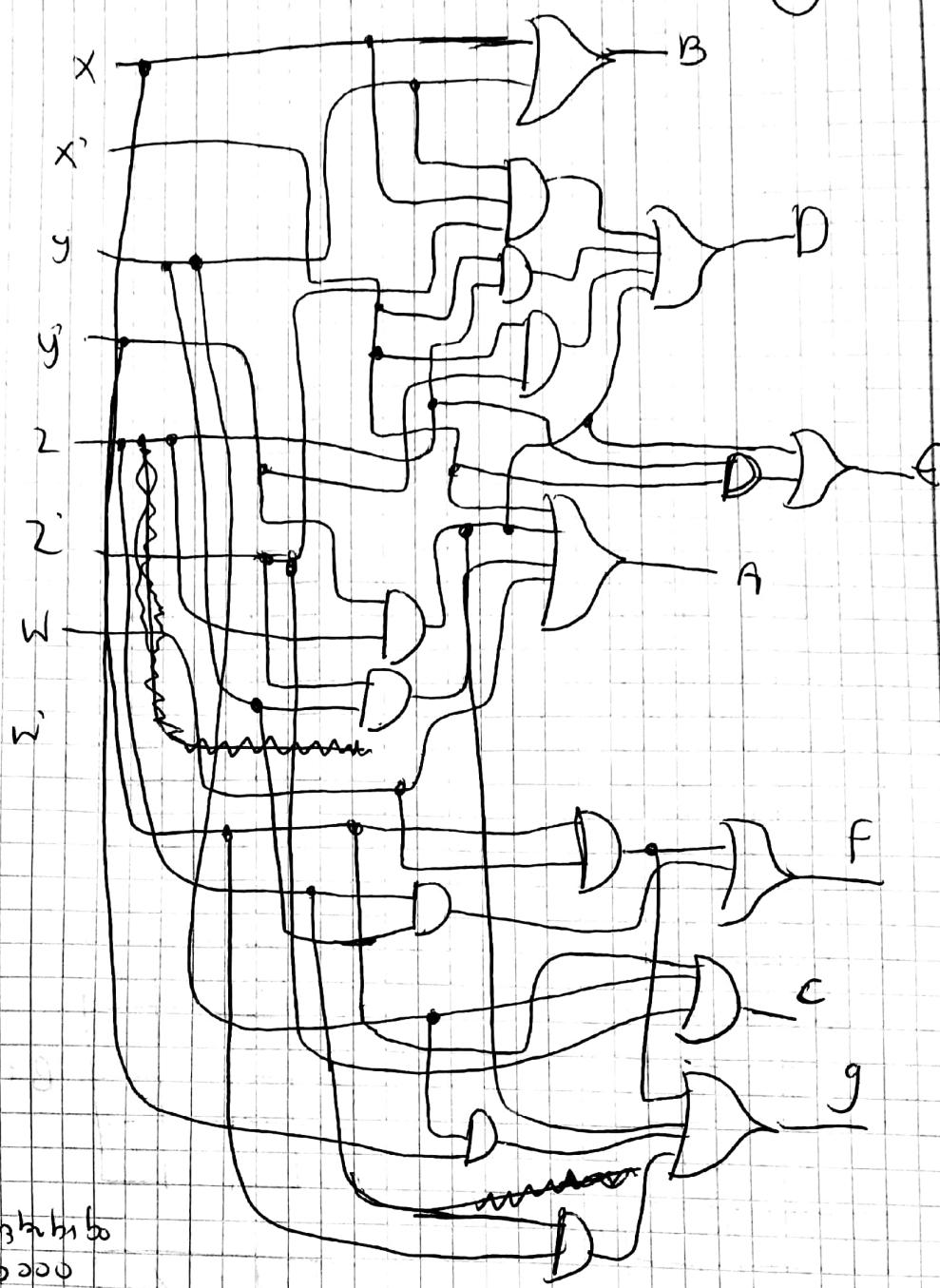
| | | | |
|---|---|---|---|
| x | x | 1 | x |
| 1 | 1 | 1 | 1 |
| 1 | x | x | x |
| 1 | 1 | | |

$$B = x + y$$

C

| | | | |
|---|---|---|---|
| x | x | 1 | x |
| 1 | | 1 | 1 |
| 1 | x | x | x |
| 1 | 1 | 1 | 1 |

$$C = w + y + z$$



| | |
|------|------|
| 0000 | 1000 |
| 0001 | 1111 |
| 0010 | 1110 |
| 0011 | 1101 |
| 0100 | 1100 |
| 0111 | 1011 |
| 0110 | 1010 |
| 0111 | 1001 |
| 1000 | 1000 |
| 1001 | 0111 |
| 1010 | 0110 |
| 1011 | 0101 |
| 1100 | 0100 |
| 1101 | 0011 |
| 1110 | 0010 |
| 1111 | 0001 |

$$b_0 = a_0$$

$$b_1 = a_0 + a_1$$

$$b_2 = a_0' a_1' a_2 + a_0 a_1' + a_1' a_2$$

$$b_3 = a_3 a_1' a_0' a_2 + a_3' a_1 + a_3' a_2 + a_3 a_2$$

(G)