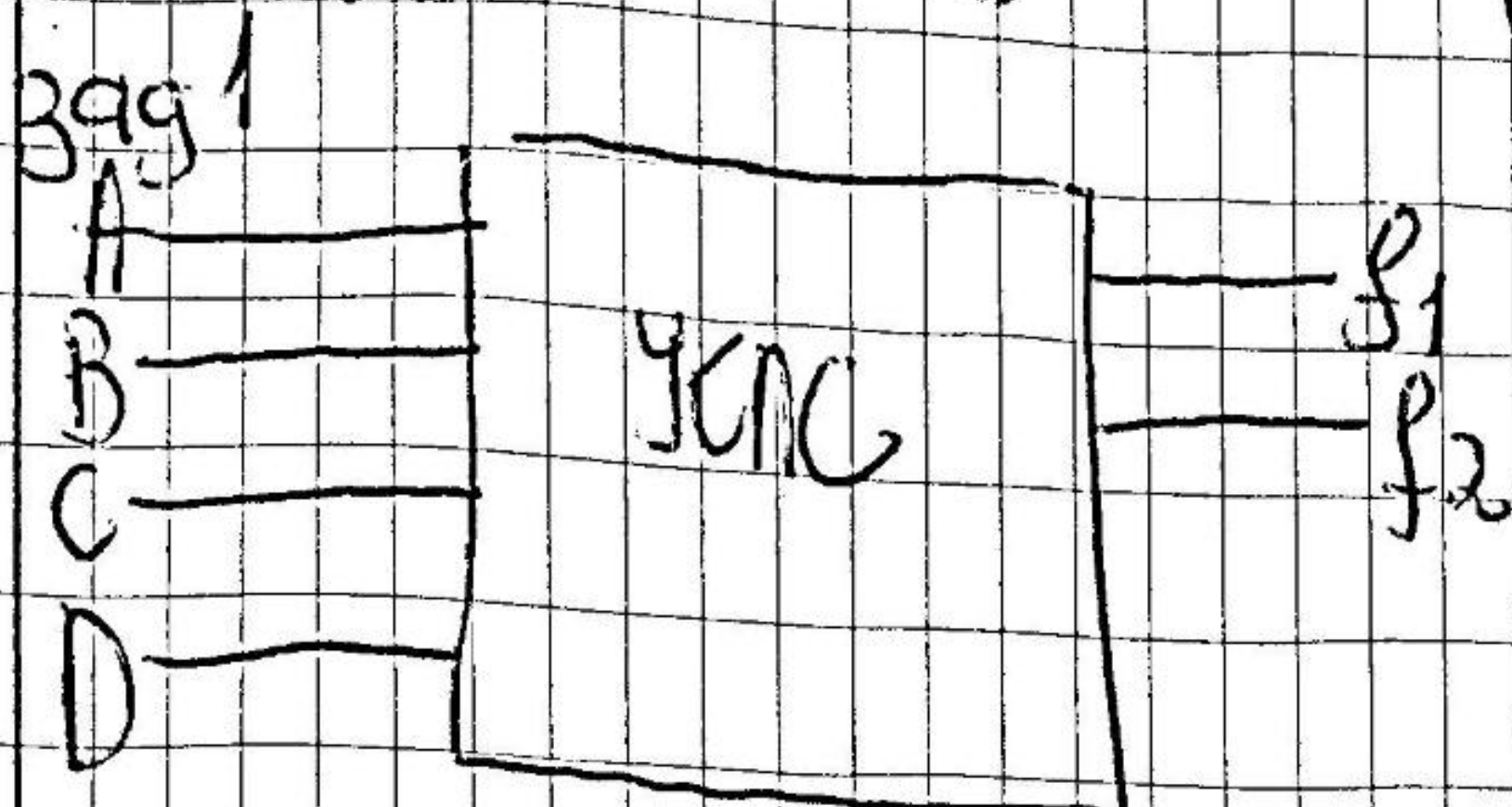


22.03.2022 Усещица. С.У.

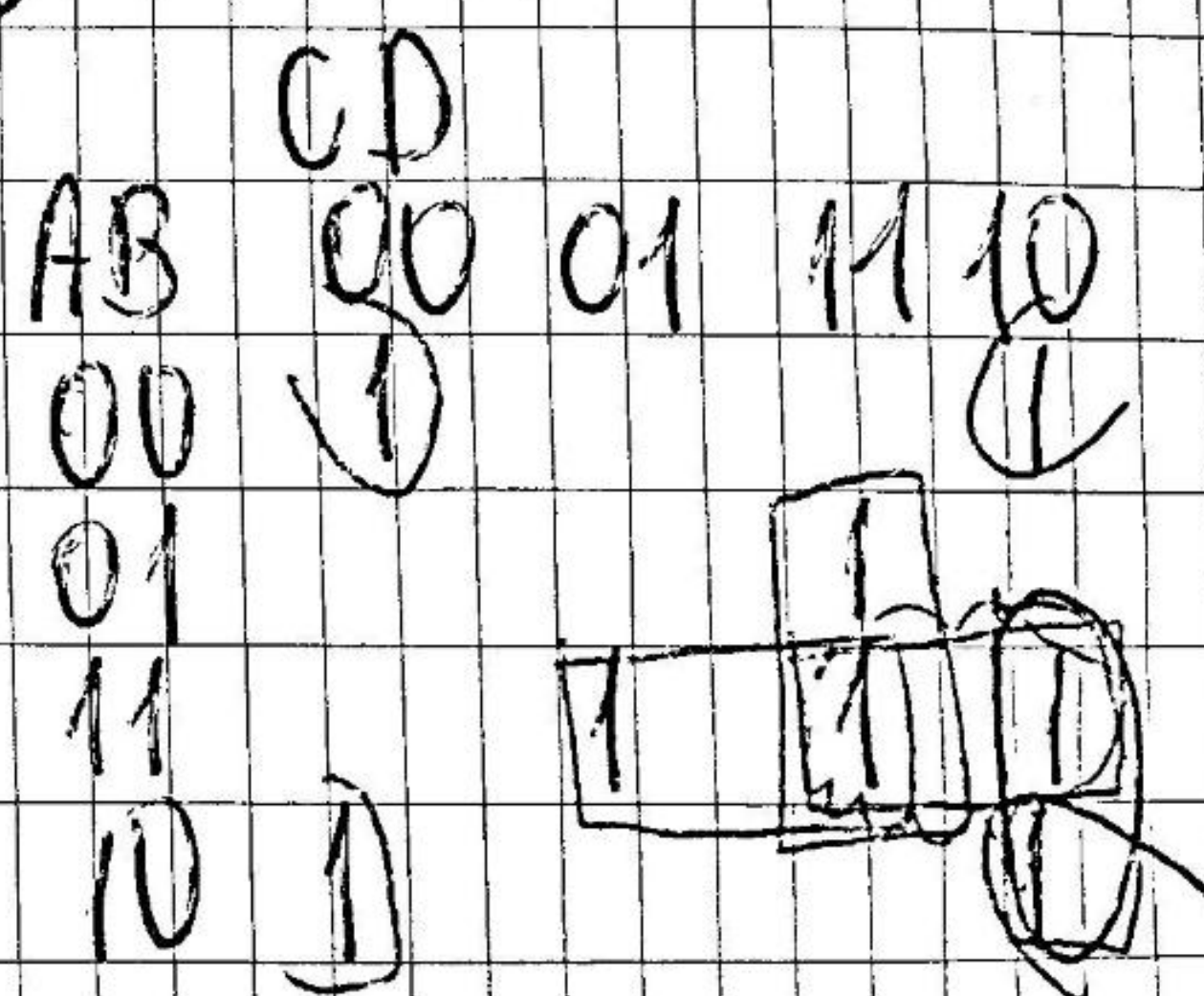
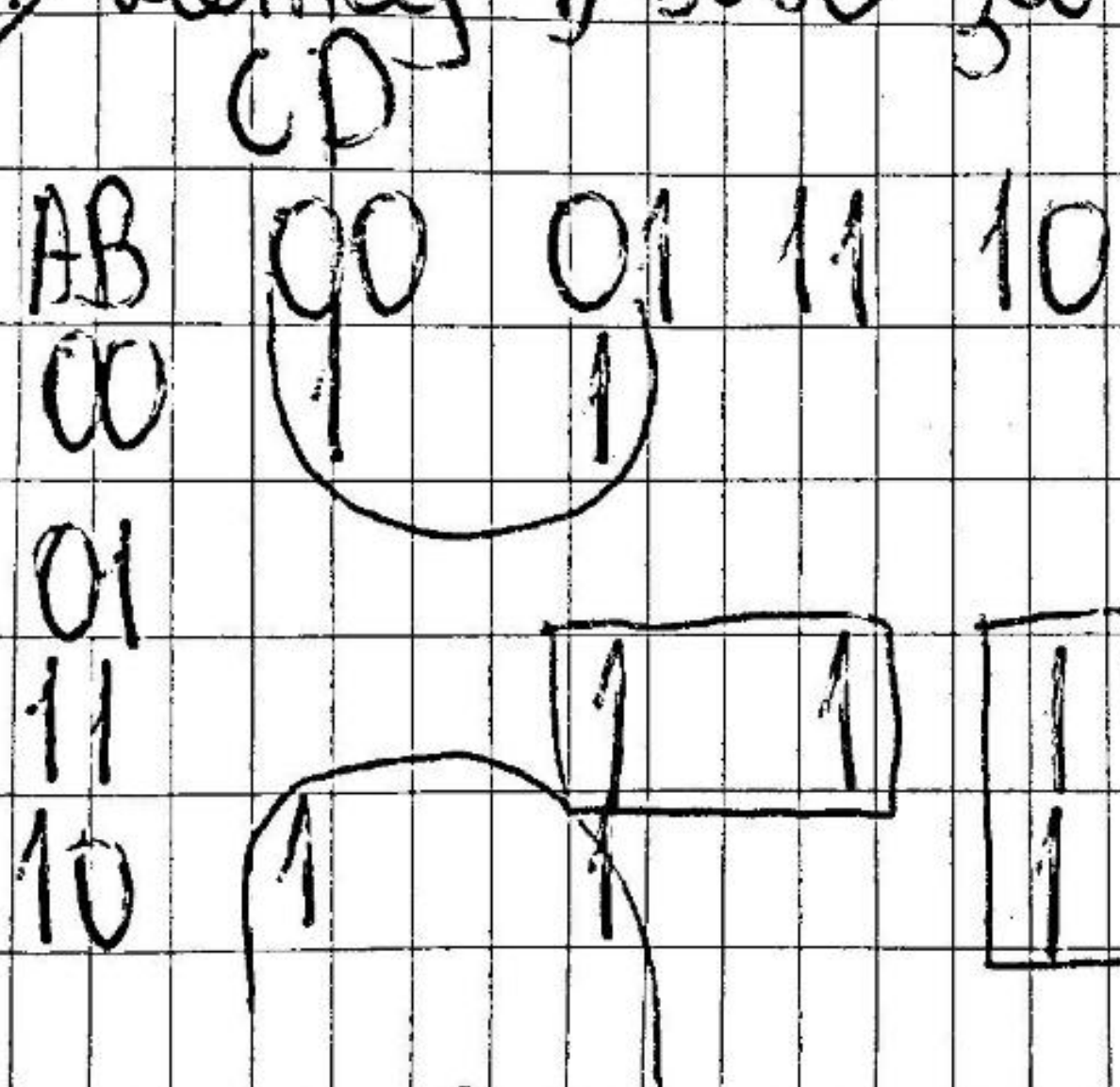
Синтез на минимална КНС



$$f_1(A, B, C, D) = \sum m(0, 1, 8, 9, 10, 13, 14, 15)$$

$$f_2(A, B, C, D) = \sum m(0, 2, 7, 8, 9, 10, 13, 14, 15)$$

1) ментос 1) КНС за f_1 и f_2



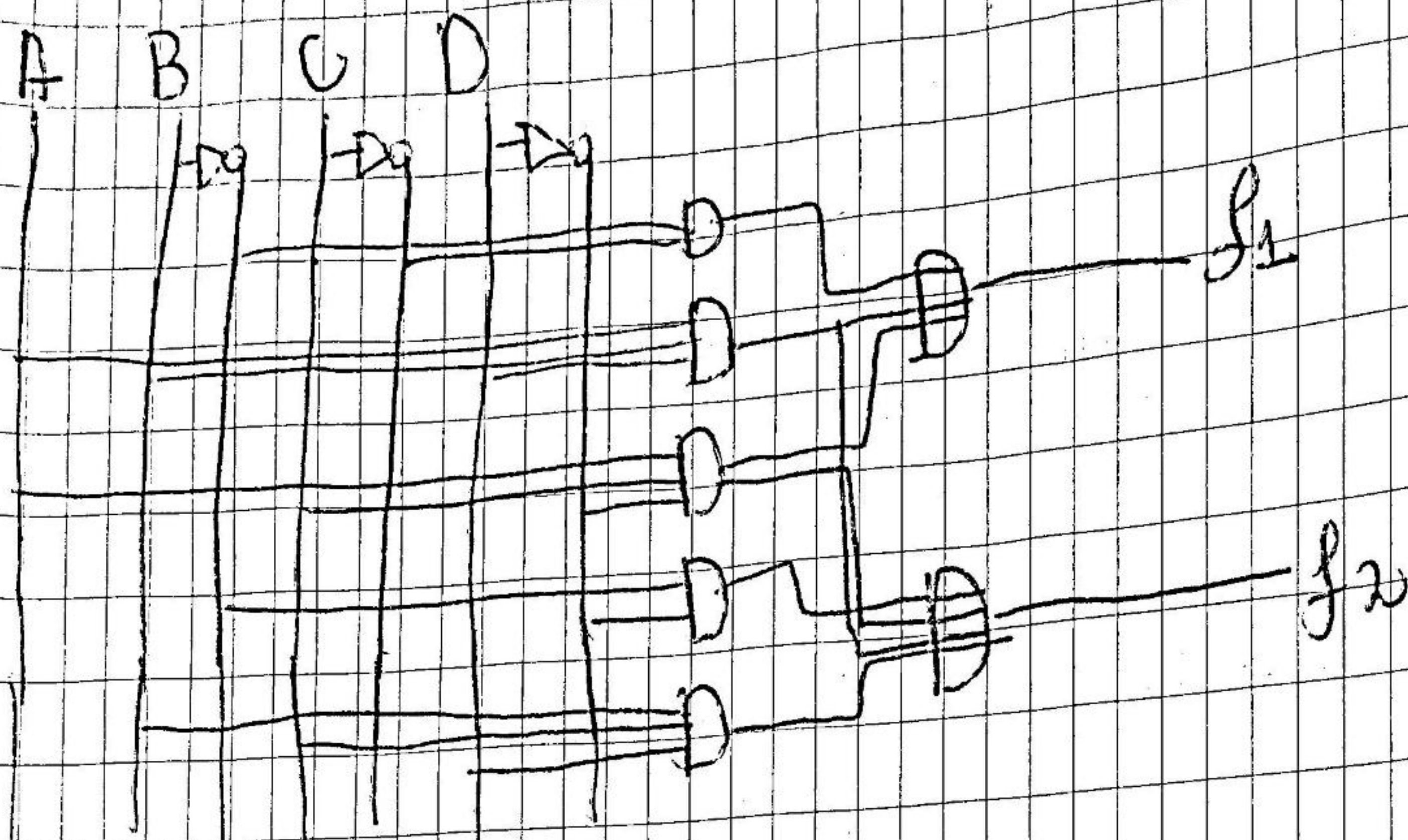
2) КНС за f_1 и f_2

да се впаѓаат
групите
(по - мало алене)

$$f_{1 \text{ мин }} = \overline{B} \overline{C} + \overline{A} B D + A \overline{C} D$$

$$f_{2 \text{ мин }} = \overline{B} \overline{D} + \overline{B} C D + A \overline{C} D + A B D$$

3) Числа



II) минимизация

$$f(A, B, C, D) = \bigvee_m (0, 1, 8, 9, 10, 13, 14, 15)^1$$

$$f(A, B, C, D) = \bigvee_m (0, 2, 7, 8, 10, 13, 14, 15)^1$$

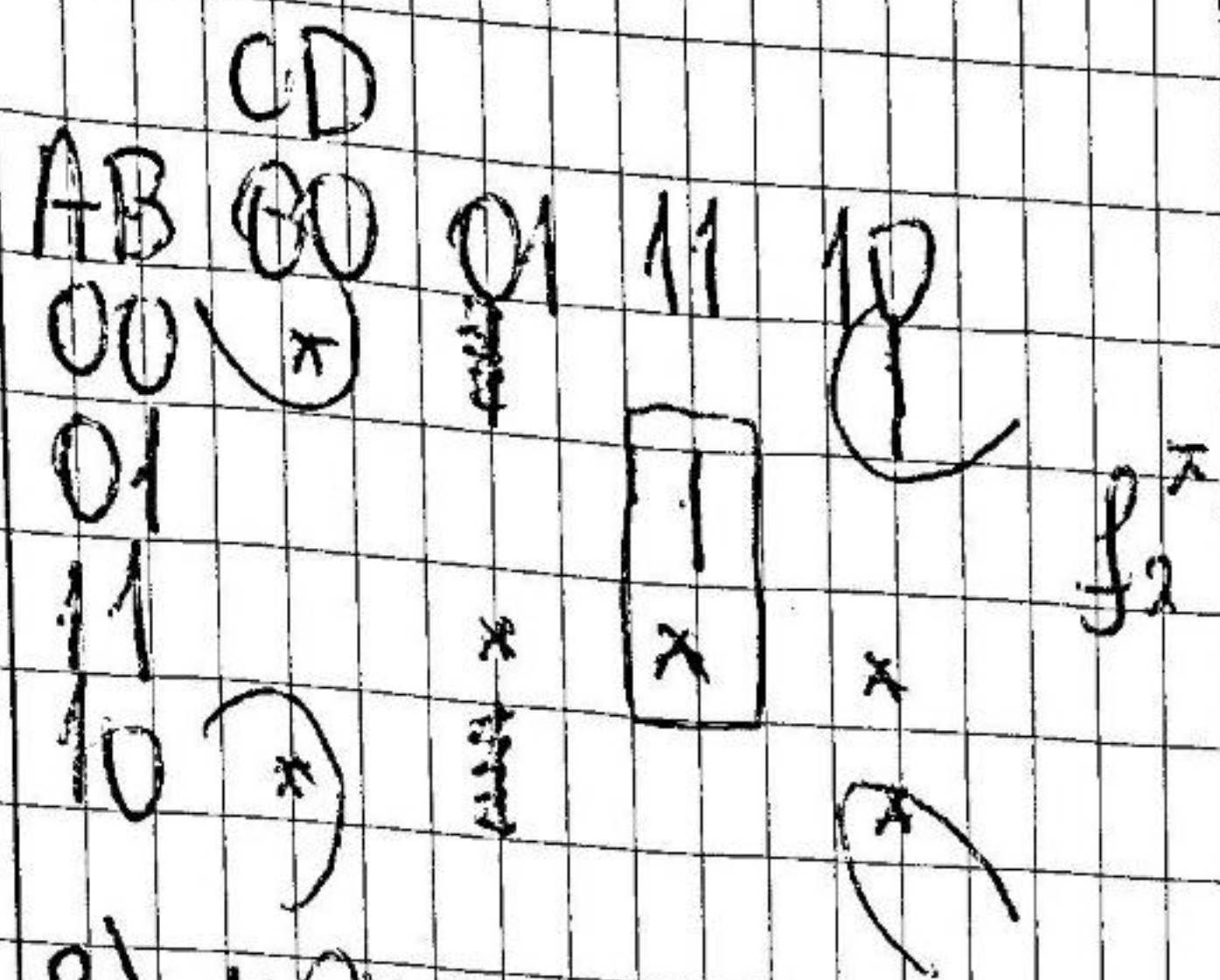
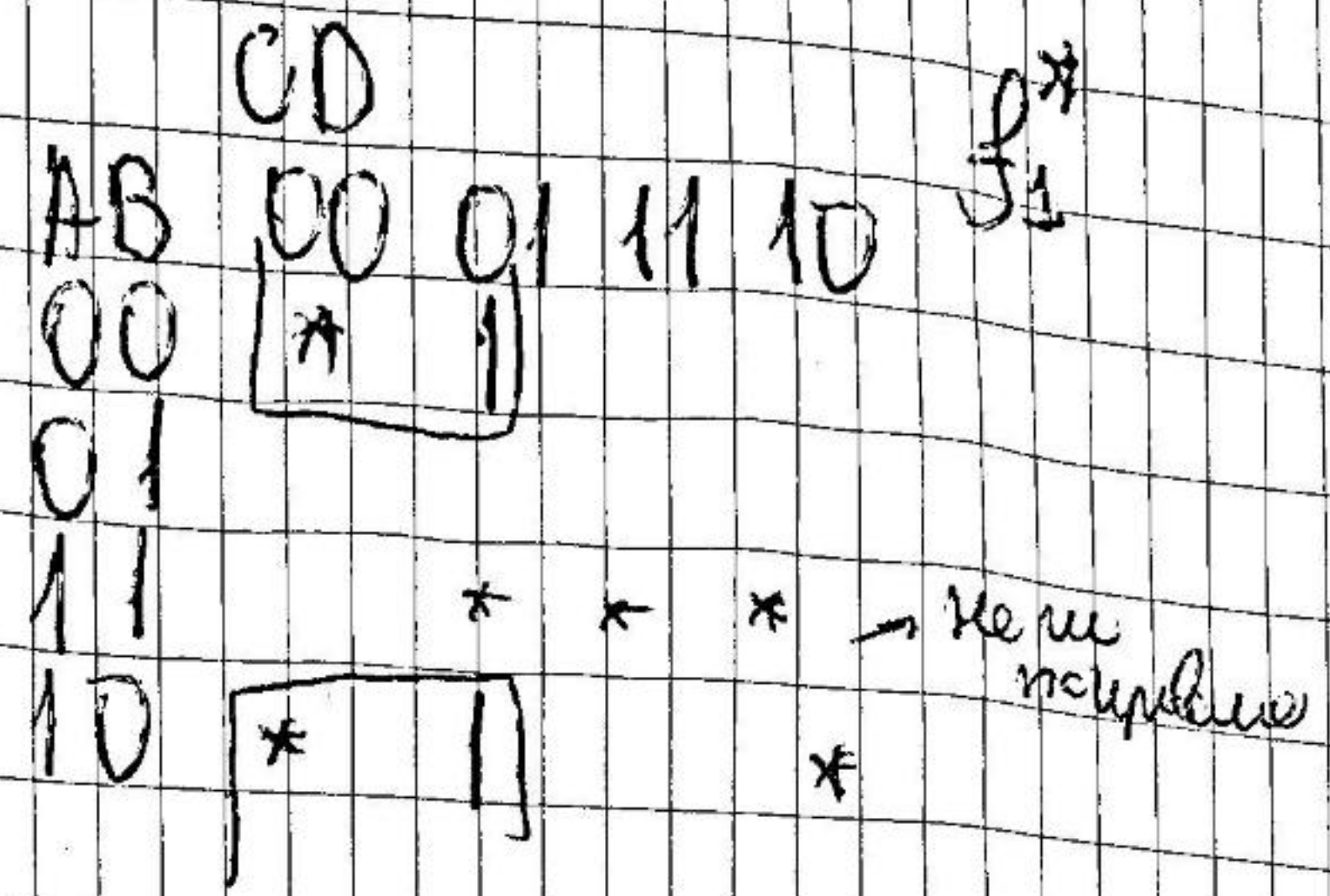
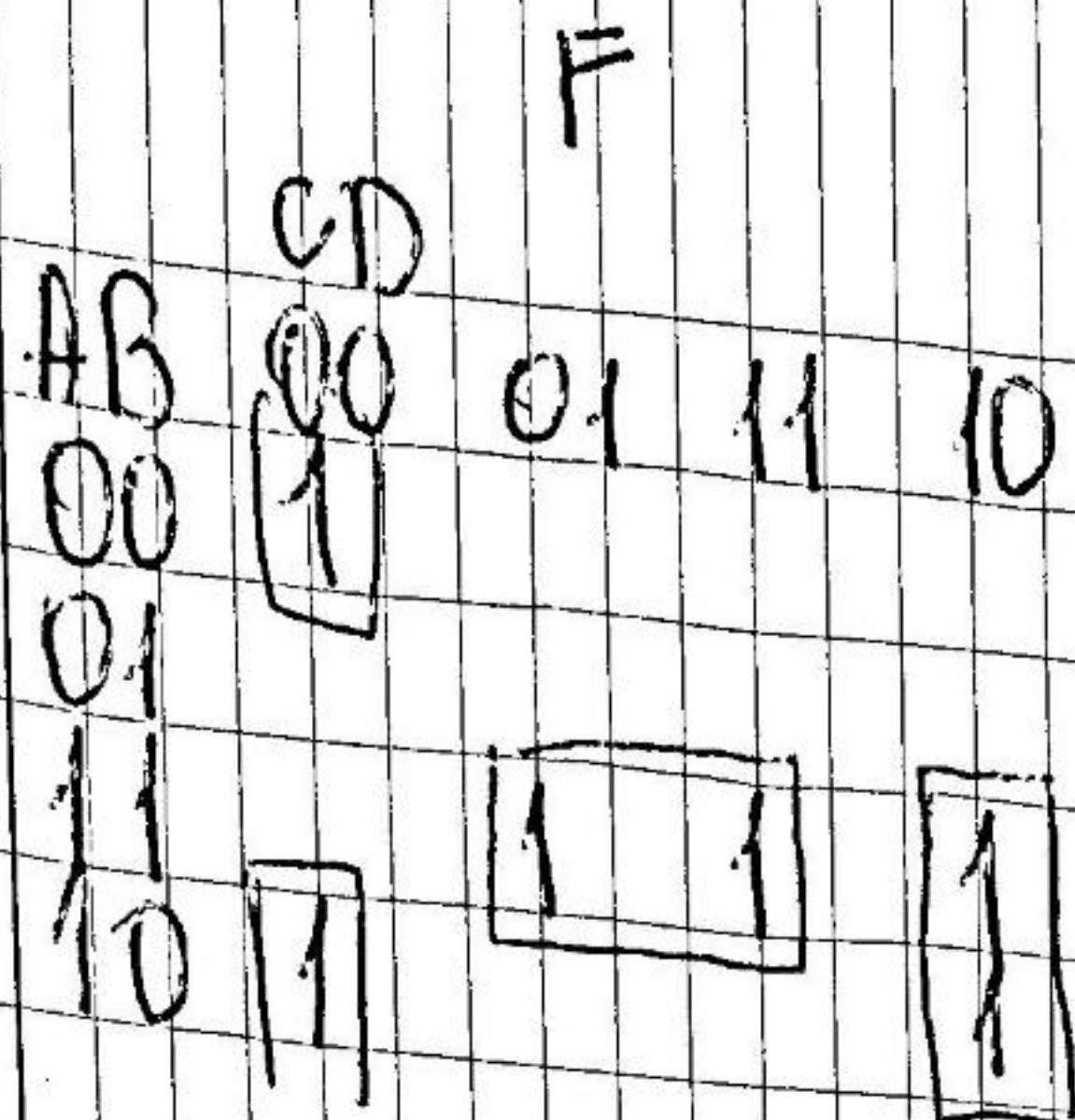
1) $F \rightarrow f_1^*$ $F \rightarrow f_2^*$

$$F = \bigvee_m (0, 8, 10, 13, 14, 15)^1 \text{ одиче}$$

$$f_1^* = \bigvee_m (1, 9)^1 + \bigvee_m (0, 8, 10, 13, 14, 15)^*$$

$$f_2^* = \bigvee_m (2, 7)^1 + \bigvee_m (0, 8, 10, 13, 14, 15)^*$$

2) $\text{УК} F, f_1^*, f_2^*$



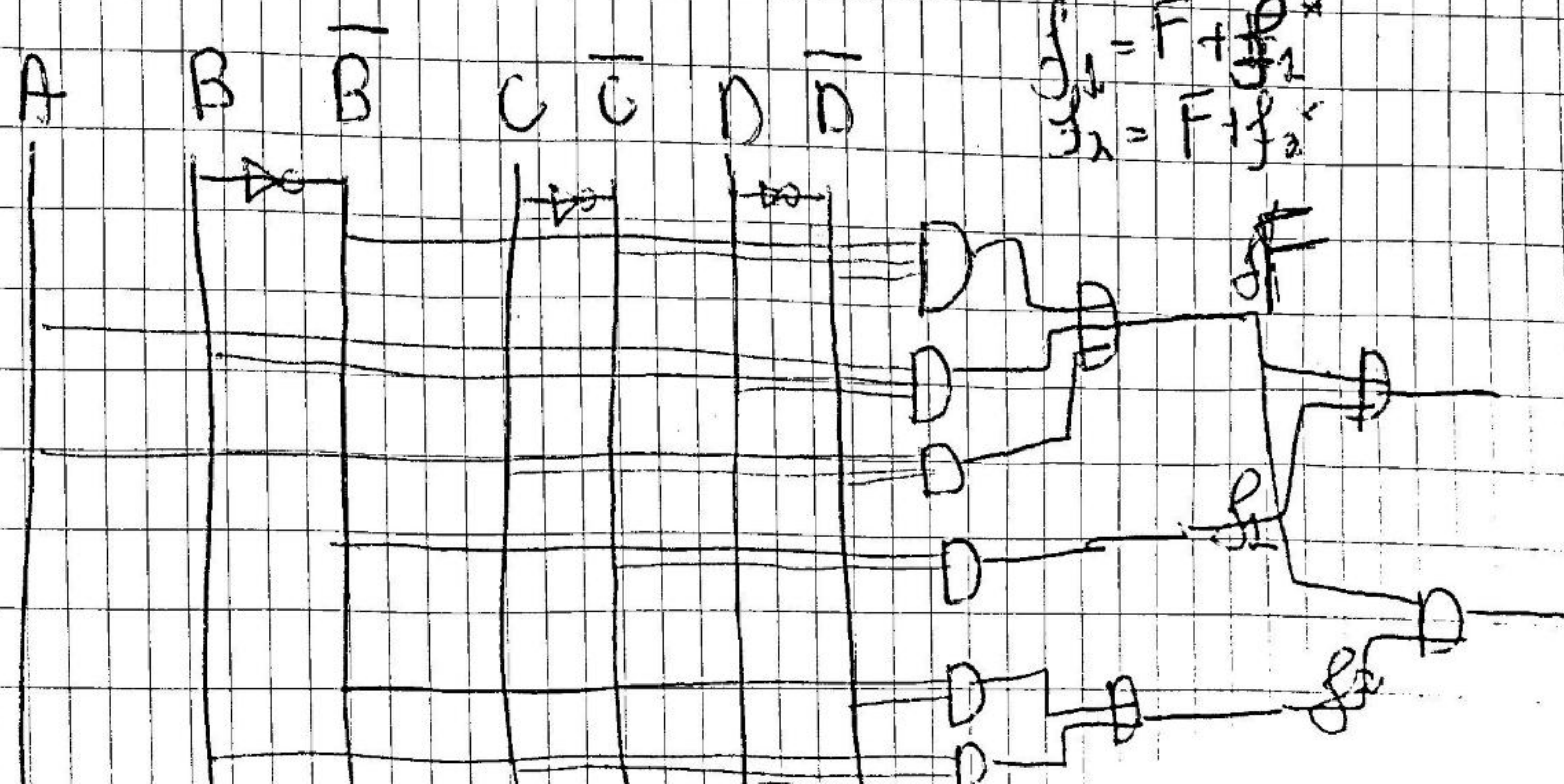
3) минимизация

$$F_{минимиз} = \overline{B} \overline{C} \overline{D} + ABD + AC \overline{D}$$

$$f_{1 минимиз} = \overline{B} \overline{C}$$

$$f_{2 минимиз} = \overline{B} \overline{D} + BCD$$

4) схема



Заг 2

$$f_1 = \bigvee_m (0, 1, 2, 4, 6, 10, 11, 13, 15)$$

$$f_2 = \bigvee_m (2, 4, 5, 6, 7, 10, 11)$$

$$f_3 = \bigvee_m (2, 4, 5, 6, 10)$$

а)

f_1

	CD			
AB	00	01	11	10
00	1 ₀	1 ₁	1 ₃	1 ₂
01	1 ₄	5	7	6
11	12	13	15	14
10	8	9	11	10

f_2

	CD			
AB	00	01	11	10
00	0	1	3	2
01	1 ₄	1 ₅	7	6
11	12	13	15	14
10	8	9	11	10

f_1

	CD			
AB	00	01	11	10
00	1 ₀	1	3	2
01	1 ₄	5	7	6
11	12	13	15	14
10	8	9	11	10

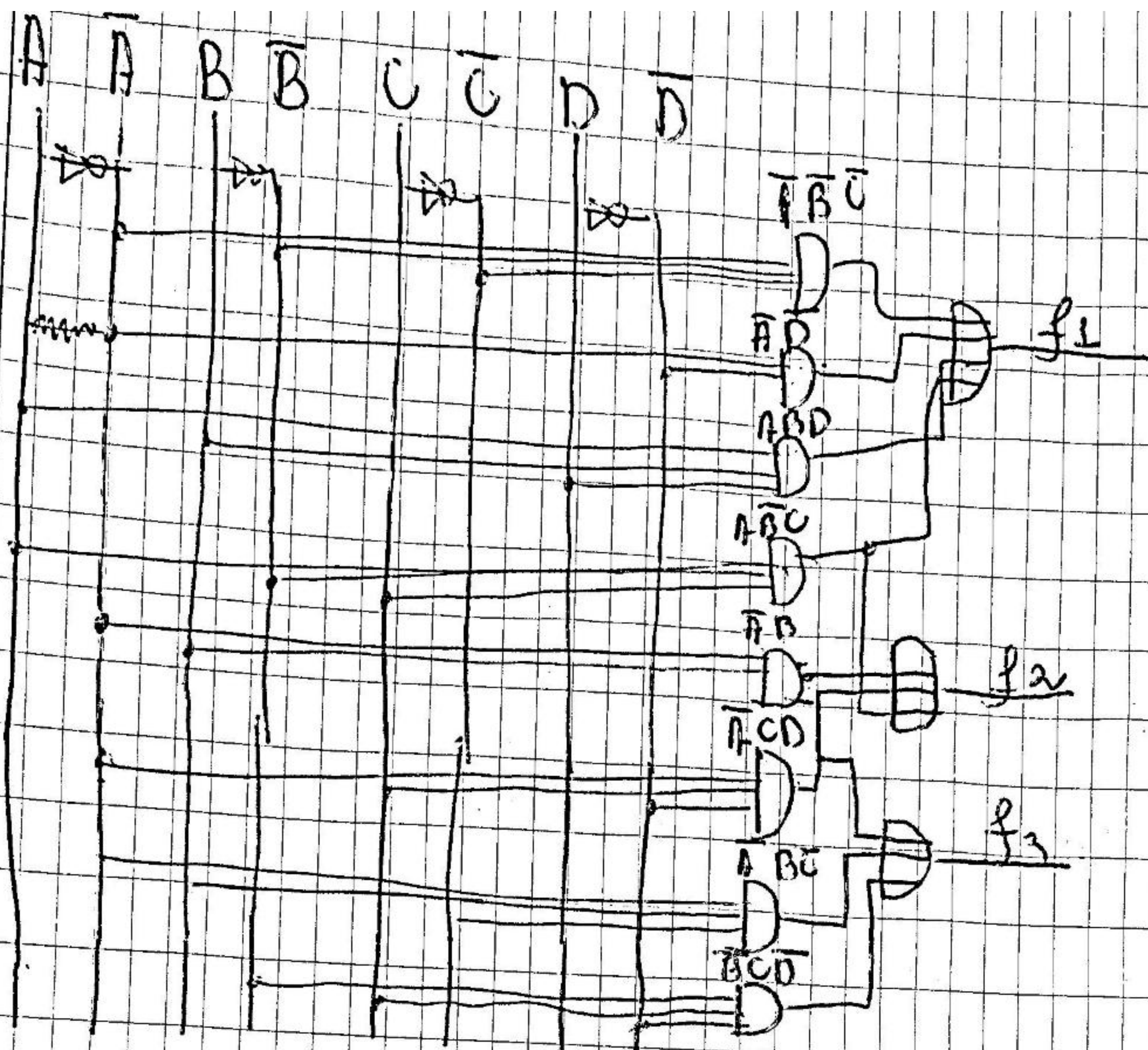
f_3

	CD			
AB	00	01	11	10
00	0	1	3	2
01	1 ₄	1 ₅	7	6
11	12	13	15	14
10	8	9	11	10

$$f_{1 \text{ и } 4 \text{ и } 6} = \overline{A} \overline{B} \overline{C} + \overline{A} \overline{D} + A B D + \textcircled{A B C}$$

$$f_{2 \text{ и } 4 \text{ и } 6} = \overline{A} B + \boxed{\overline{A} \overline{C} \overline{D}} + \textcircled{A \overline{B} C}$$

$$f_{3 \text{ и } 4 \text{ и } 6} = \boxed{\overline{A} \overline{C} \overline{D}} + \overline{A} B \overline{C} + \overline{B} \overline{C} \overline{D}$$



$f_1 = V_m(0, 1, 2, 4, 6, 10, 11, 13, 15)$
 $f_2 = V_m(2, 4, 5, 6, 7, 10, 11)$
 $f_3 = V_m(2, 4, 5, 6, 10)$

$F = V_m(2, 4, 6, 10)$
 $f_1^* = V_m(0, 1, 11, 13, 15) + V_m(F)$
 $f_2^* = V_m(5, 7, 11) + F$
 $f_3^* = V_m(5) + F$

F					f ₁					f ₂				
CD					CD					CD				
AB	00	01	11	10	AB	00	01	11	10	AB	00	01	11	10
00	0	1	3	2	00	1	1	*	*	00	*	*	*	*
01	4	5	7	6	01	*	*	*	*	01	*	1	1	*
11	12	13	15	14	11	1	1	1	1	11	1	1	1	1
10	8	9	11	10	10	1	*	*	*	10	1	*	*	*

f_3

	CD			
AB	00	01	11	10
00				*
01	*	1		*
11				
10			*	

$$F_{\text{маш}} = \overline{A} B \overline{D} + C \overline{D} \overline{B}$$

$$f_{\text{маш}}^* = \overline{A} \overline{B} \overline{C} + ABD + \overline{A} \overline{B} C$$

$$f_{\text{маш}}^* = \overline{A} B + \overline{A} B C$$

$$f_{\text{маш}}^* = \overline{A} B C$$

A \overline{A} B \overline{B} C \overline{C} D \overline{D}

