$$f(x1, \cdots, x4) = \sum\left(m(0,4,8,10,11,12) + d(13,15)\right)$$

# of 1s	Minterm	Binary	combined
0	0	0000	✓
1	4	0100	✓
	8	1000	✓
2	10	1010	✓
	12	1100	✓
3	11	1011	✓
	13	1101	✓
4	15	1111	✓

→

하이픈 개수 안셈

# of 1s	pairs	Binary
0	(0,4)	0-00
	(0,8)	-000
1	(8,10)	10-0
	(4,12)	-100
	(8,12)	1-00
2	(10,11)	101-
	(12,13)	110-
3	(11,15)	1-11
	(13,15)	11-1

# of 1s	pairs	Binary		# of 1s	Quad	Binary	combined
0	(0,4)	0-00	✓	0	(0,4,8,12)	--00	☆
	(0,8)	-000	✓				
1	(8,10)	10-0	☆	1	X		
	(4,12)	-100	✓				
	(8,12)	1-00	✓	2	X		
2	(10,11)	101-	☆				
	(12,13)	110-	☆				
3	(11,15)	1-11	☆				
	(13,15)	11-1	☆				

$f = \sum (0,1,2,3,8,9,10,13,15)$

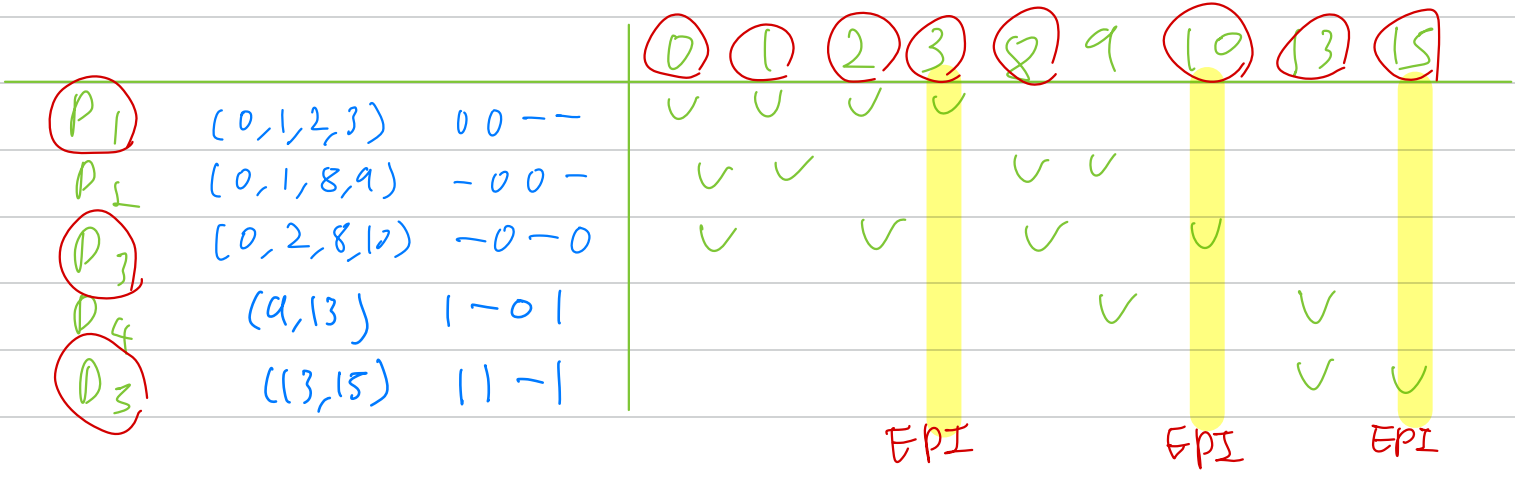
# of 1s	minterm	binary	combined →
0	0	0000	✓
1	1	0001	✓
	2	0010	✓
	8	1000	✓
2	3	0011	✓
	9	1001	✓
	10	1010	✓
3	13	1101	✓
4	15	1111	✓

# of 1s	pair	Binary
0	(0,1)	000–
	(0,2)	00–0
	(0,8)	–000
1	(1,3)	00–1
	(1,9)	–001
	(2,3)	001–
	(2,10)	–010
	(8,9)	100–
	(8,10)	10–0
2	(9,13)	1–01
3	(13,15)	11–1

# of 1s	pair	Binary
0	(0,1)	000- ✓
	(0,2)	00-0 ✓
	(0,8)	-000 ✓
1	(1,3)	00-1 ✓
	(1,9)	-001 ✓
	(2,3)	001- ✓
	(2,10)	-010 ✓
	(8,9)	100- ✓
	(8,10)	10-0 ✓
2	(9,13)	1-01 ✡
3	((3,15)	11-1 ✡

→

# of 1s	Quad	Binary	
0	(0,1,2,3)	00--	✡
	(0,1,8,9)	-00-	✡
	(0,2,8,10)	-0-0	✡
1		X	
2		X	



	NEPI		9	
P_2	(0,1,8,9)	-00-	∨	← cost가 저렴
P_4	(9,13)	1-01	∨	

$$\therefore f = \sum(0,1,2,3,8,9,10,13,15) = P_1 + P_2 + P_3 + P_5$$