```
.i 4
.o 1
.ilb a b c d
.ob F
.p 7
00-0 1
0-11 1
1-01 1
0101 1
1111 -
100- 1
-01- 1
.e
```

F = a'b'd' + a'cd + ac'd + a'bc'd + ab'c' + b'c
Don't care: abcd

a'b'd': m_0, m_2
a'cd: m_3, m_7
ac'd: m_9, m_{13}
a'bc'd: m_5
ab'c': m_8, m_9
b'c: m_2, m_3, m_{10}, m_{11}
abcd: m_{15}

F = $\sum m(0, 2, 3, 5, 7, 8, 9, 10, 11, 13) + d(15)$

Group	Minterm	4-literal term	Minterms	3-literal term	Minterms	2-literal term
0	m_0	0000	m_0, m_2	00-0	m_0, m_2, m_8, m_{10}	-0-0
			m_0, m_8	-000		
1	m_2	0010	m_2, m_3	001-	m_2, m_3, m_{10}, m_{11}	-01-
			m_2, m_{10}	-010		
	m_8	1000	m_8, m_9	100-	m_8, m_9, m_{10}, m_{11}	10--
			m_8, m_{10}	10-0		
2	m_3	0011	m_3, m_7	0-11	m_3, m_7, m_{11}, m_{15}	--11
			m_3, m_{11}	-011		
	m_5	0101	m_5, m_7	01-1	m_5, m_7, m_{13}, m_{15}	-1-1
			m_5, m_{13}	-101		
	m_9	1001	m_9, m_{11}	10-1	$m_9, m_{11}, m_{13}, m_{15}$	1--1
			m_9, m_{13}	1-01		
	m_{10}	1010	m_{10}, m_{11}	101-		
3	m_7	0111	m_7, m_{15}	-111		
	m_{11}	1011	m_{11}, m_{15}	1-11		
	m_{13}	1101	m_{13}, m_{15}	11-1		
4	m_{15}	1111				

灰底字表示 prime implicant (PI)

Symbol	Notation	Product term	m_0	m_2	m_3	m_5	m_7	m_8	m_9	m_{10}	m_{11}	m_{13}
U	-0-0	b'd'	✓	✓				✓		✓		
V	-01-	b'c		✓	✓					✓	✓	
W	10--	ab'						✓	✓	✓	✓	
X	--11	cd			✓		✓				✓	
Y	-1-1	bd				✓	✓					✓
Z	1--1	ad							✓		✓	✓

Essential prime implicant (EPI): b'd', bd (∵ m_0, m_5 is covered by only one PI)

Symbol	Notation	Product term	m_3	m_9	m_{11}
V	-01-	b'c	✓		✓
W	10--	ab'		✓	✓
X	--11	cd	✓		✓
Z	1--1	ad		✓	✓

(V + X) (W + Z) (V + W + X + Z)

= (VW + VZ + WX + XZ) (V + W + X + Z)

= VW + VWX + VWZ + VZ + VXZ + WX + WXZ + XZ

∴ VW, VZ, WX, XZ are feasible solutions (i.e., minimum number of product terms)

F = b'd' + bd + b'c + ab'

F = b'd' + bd + b'c + ad

F = b'd' + bd + ab' + cd

F = b'd' + bd + cd + ad

Output one of the above 4 functions to a PLA file.

Take F = b'd' + bd + b'c + ab' as an example.

```
.i 4
.o 1
.ilb a b c d
.ob f
.p 4
-0-0 1
-1-1 1
-01- 1
10-- 1
.e
```