

①

PS NS, 2
x=0 x=1

A	C, 0	F, 0
B	D, 1	F, 0
C	E, 0	B, 0
D	B, 1	E, 0
E	D, 0	B, 0
F	D, 1	B, 0

Note: If they are in same group No need to Split

Step 1 Same o/p under all i/p conditions

(A, C, E) , (B, D, F)

	x=0	x=1	
A	C, 0	F, 0	
C	E, 0	F, 0 B, 0	} same o/p
E	D, 0	B, 0	
B	D, 1	F, 0	
D	B, 1	E, 0	
F	D, 1	B, 0	

Step 2 (A, C) , (E) , (B, F) (D)

In Table 1, For x=0, A C, 0
C E, 0
E D, 0

O-successor of (A, C) is (C, E) which is in P_1 in same group and o-successor of E is (D) which is in P_2

So we have to separate as (A, C) , (E)

(2)

1 successor of (A, C, E) is (F, B, B) which is in P_2
so need of splitting.

0-successor of (B, D, F) is (D, B, B) which is in P_2
so need to split

1-successor of (B, D, F) is (F, E, B)

Here we observe (B, F) is (F, B) is P_2 (1 successor)

$[D]$ is (E) is P_1 (1 successor)

So split (B, D, F) as $(B, F), (D)$

Step 3

A	C, 0	F, 0
C	E, 0	B, 0
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E	D, 0	B, 0
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B	D, 1	F, 0
F	D, 1	B, 0 B, 0
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D	B, 1	E, 0

~~Repeat Step 2 once again~~

In Step 2 we got $(A, C), (E), (B, F), (D) \rightarrow (1)$

0-successor of (A, C) is (C, E) . Both are different groups. (Now $\&^n (1)$ taken into account)

So (A, C) is partitioned as $(A)(C)$

1-successor of (A, C) is (B, B) so same group no partition.

0-successor of (B, F) is (D, D) same group
No partition needed

1-successor of (B, F) is (F, B) same group
No partition needed

$(A)(C)(E), (B, F), (D)$

Step - 4

$(A, C), (E), (B, F), (D)$

- ~~0 successors of~~
- 0 successors of (B, F) is (D, D) in same group
- 1 successor of (B, F) is (F, B) in same group

No partition possible

So $(A), (C), (E), (B, F), (D)$

So $B = F$

Reduced Table :

Replace F with B

A
B
C
D
E

A	C, D	B, D
B	D, I	B, D
C	E, O	B, O
D	B, I	E, O
E	D, O	B, O