

K-Map Simplification :-

① Two-variable :-

Decimal	A	B
0	0	0
1	0	1
2	1	0
3	1	1

	B		
A	A'	B'	
	0	1	B
A	2	3	

② Three-variable :-

	BC	BD'C	BC	BC'
A	00	01	11	10
A'0	0	1	3	2
A'1	4	5	7	6

D	A	B	C
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

③ Four variable K-Map :-

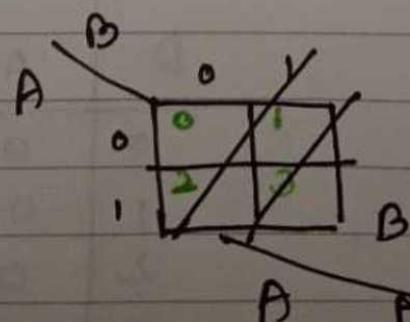
		CD				
		AB	00	01	11	10
↓	00	0	1	2	3	
	01	4	5	7	6	
	11	12	13	15	14	
	10	8	9	11	10	

① Example for 2-variable :-

$$f = \Sigma (0, 2)$$

00 10

$$f = A'B' + AB'$$



0	0	1	
0	1	2	3
1	2	1	0

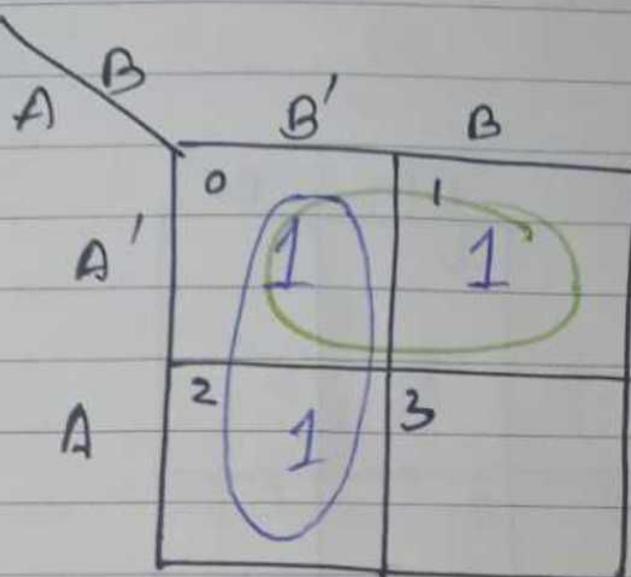
Ans:- $f = B'$

M	T	W	T	2	3	4
				9	10	11
5	6	7	8	15	16	17
12	13	14	15	22	23	24
19	20	21	22	29	30	31

JULY • SATURDAY

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$$\textcircled{2} \quad f = \Sigma(0, 1, 2)$$



$$f = B' + A'$$

WK 29

SUNDAY

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Example for 3-variable:-

$$\textcircled{1} \quad f = A'B'C' + AB'C'$$

		B'C'	B'C	BC	BC'
		0	1	2	3
A'		1	0	0	0
A	4	1	0	0	0
	A	1	0	0	0

$$f = B'C'$$

AUGUST - 2019		
S	T	F
1	2	3
8	9	10
15	16	17
22	23	24
29	30	31

2019

JULY • TUESDAY

$$\textcircled{2} \quad f(A, B, C) = \sum (0, 2, 4, 5, 6)$$

		$B'C'$	$B'C$	BC	BC'
		0	1	2	3
A'	0	1	0	0	1
	1	1	1	0	1
A	0	1	0	0	1
	1	1	1	0	1

$$f = AB' + C'$$

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WEDNESDAY • JULY

9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

③

~~for A'B'D~~

$$f = A'B'C'D + ABC'D + A'BCD + ABCD \\ + A'B'C'D'$$

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WEDNESDAY • JULY

S	M	T	W	T	F	S
30						
2	3	4	5	6	7	
9	10	11	12	13	14	
16	17	18	19	20	21	
23	24	25	26	27	28	

(3) ~~for A'B'D'~~

$$f = A'B'C'D + ABC'D + A'BCD + ABCD \\ + A'B'C'D'.$$

AB	A'B'	A'B	AB	AB'
CD	1	0	0	0
C'D'	0	1	1	0
C'D	0	1	1	0
CD	0	0	0	0
CD'	0	0	0	0

$$f = A'B'C'D + BD$$

N
 1 2 3 4
 8 9 10 11
 7 15 16 17 18
 14 22 23 24 25
 21 29 30 31

JULY • SATURDAY

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K-map simplification for POS form:-

POS \rightarrow Maxterm

$$0 \rightarrow A \\ 1 \rightarrow A'$$

Minterm

$$0 \rightarrow A' \\ 1 \rightarrow A$$

Two variable

		B	B'
		0	1
		0	1
A	0	0	1
A'	1	2	3

D	A	B	MaxTerm
0	0	0	$A + B$
1	0	1	$A + B'$
2	1	0	$A' + B$
3	1	1	$A' + B'$

		B	B'
		0	1
		0	1
A	0	$A + B$	$A + B'$
A'	1	$A' + B$	$A' + B'$

WK 30 (209-156)

SUNDAY

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AUGUST

29

MONDAY • JULY

30	1
29	2
28	3
27	4
26	5
25	6
24	7
23	8
22	9
21	10
20	11
19	12
18	13
17	14
16	15
15	16
14	17
13	18
12	19
11	20
10	21
9	22
8	23
7	24
6	25
5	26
4	27
3	28
2	29
1	30

② Three variable

		BC			
		B+C	B+C'	B'+C	B'+C'
A	0	1	3	2	
	A'	4	5	7	6

③ Similarly for four variable . . . same pr

B. $f = (A + B + C') (A + B' + C') (A + B + C)$

		BC			
		B+C	B+C'	B'+C	B'+C'
A	0	0	0	0	
	A'				

$$f = (A + B) (A + C')$$