

## 6 variable K map

As shown below, we usually split a 6 variable K-map into 4 maps of 16 squares which makes it much easy to visualize.

The four maps overlap; i.e. minterms at the same position on each map are considered adjacent terms.

6 variable K map

~~$Y = f(a, b, c)$~~   $Y = \sum m(\dots)$

$Y(a, b, c, d, e, f) = \sum m(\dots)$

	$\bar{a}\bar{b}$			
$ef$	00	01	11	10
$cd$				
00	0	1	3	2
01	4	5	7	6
11	12	13	15	14
10	8	9	11	10

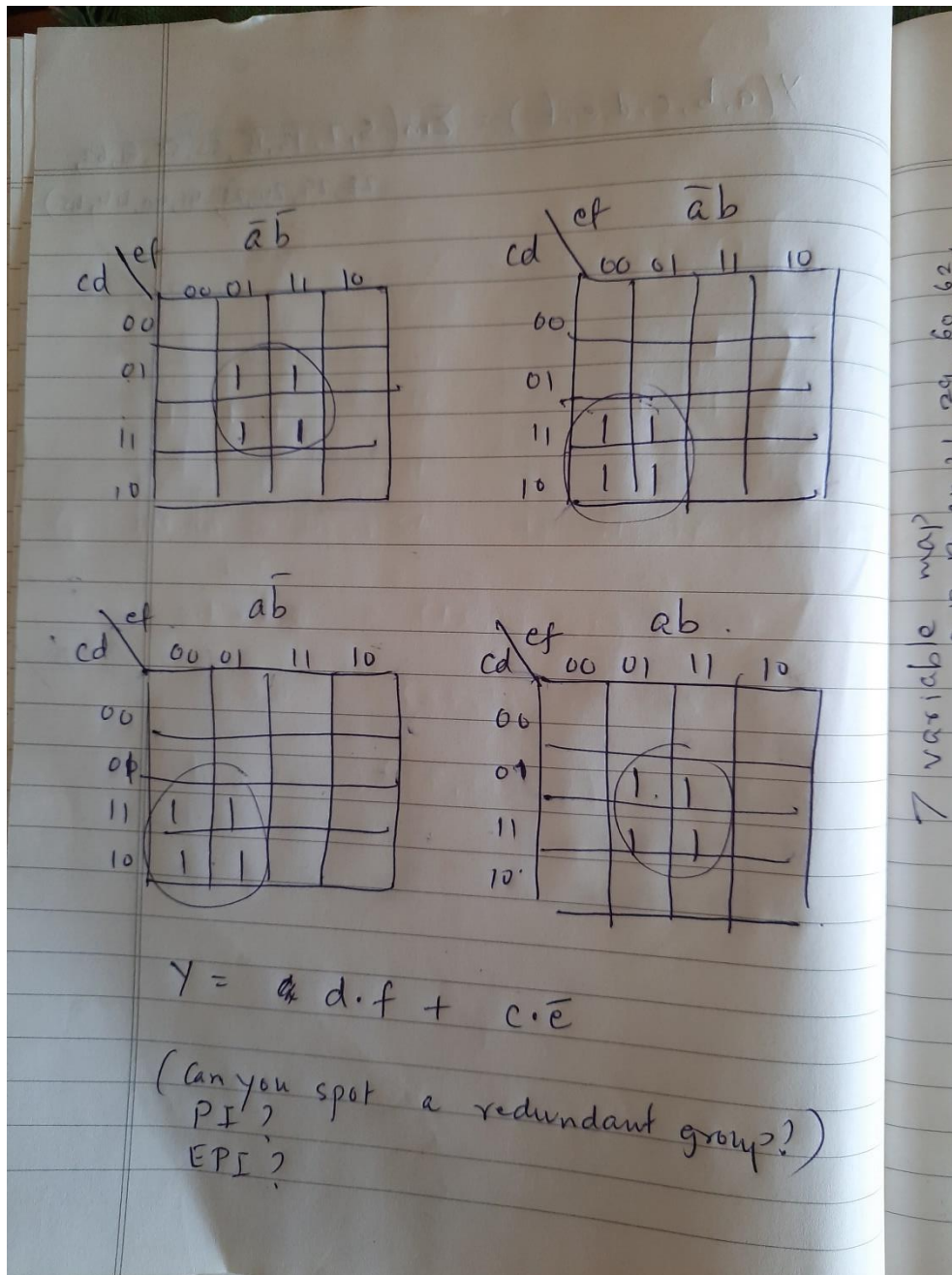
	$\bar{a}b$			
$ef$	00	01	11	10
$cd$				
00	16	17	19	18
01	20	21	23	22
11	28	29	31	30
10	24	25	27	26

	$a\bar{b}$			
$ef$	00	01	11	10
$cd$				
00	32	33	35	34
01	36	37	39	38
11	44	45	47	46
10	40	41	43	42

	$ab$			
$ef$	00	01	11	10
$cd$				
00	48	49	51	50
01	52	53	55	54
11	60	61	63	62
10	56	57	59	58

Here is an example of a 6 variable K-map:

$$Y(a, b, c, d, e, f) = \sum m(5, 7, 13, 15, 53, 55, 61, 63, 28, 29, 24, 25, 41, 40, 44, 45)$$



## 7 Variable K map

As you can see in the figure below, drawing a seven variable K map itself is very cumbersome and then grouping of the minterms or maxterms across multiple maps is confusing and not practical. So we limit ourselves to 6 variables for K map solving.

