BINARY TO DECIMAL CONVERTER

by Mohammed Arman Hossain

Purpose

Bridges the gap

Converts machine-friendly **binary** into human-readable **decimal**

Real-World Impact

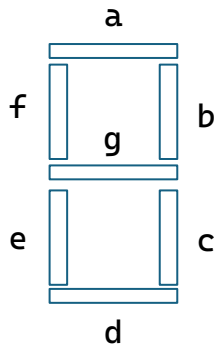
Powers **elevators, digital meters, and robotics**

Hands-on Innovation

Deepens understanding of **logic gates**

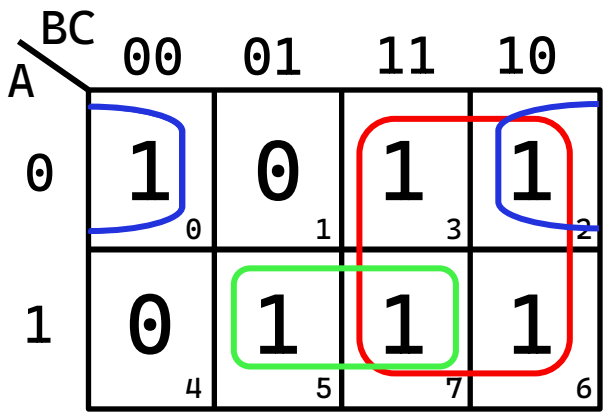
Truth Table

A	B	C	F	a	b	c	d	e	f	g
0	0	0	0	1	1	1	1	1	1	0
0	0	1	1	0	1	1	0	0	0	0
0	1	0	2	1	1	0	1	1	0	1
0	1	1	3	1	1	1	1	0	0	1
1	0	0	4	0	1	1	0	0	1	1
1	0	1	5	1	0	1	1	0	1	1
1	1	0	6	1	0	1	1	1	1	1
1	1	1	7	1	1	1	0	0	0	0



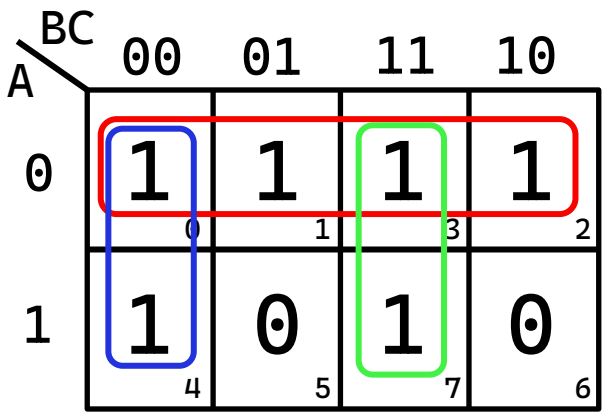
Karnaugh Maps

Minterm = ∑m(0,2,3,5,6,7)



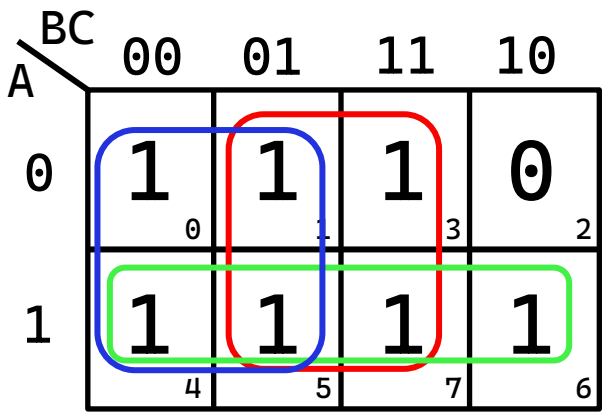
a = B+AC+A'C'

Minterm = ∑m(0,1,2,3,4,7)



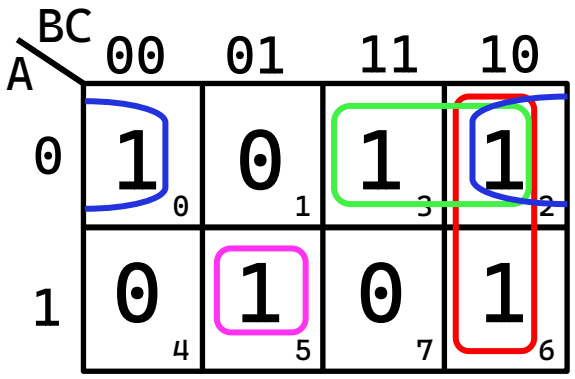
b = A'+BC+B'C'

Minterm = ∑m(0,2,3,5,6,7)



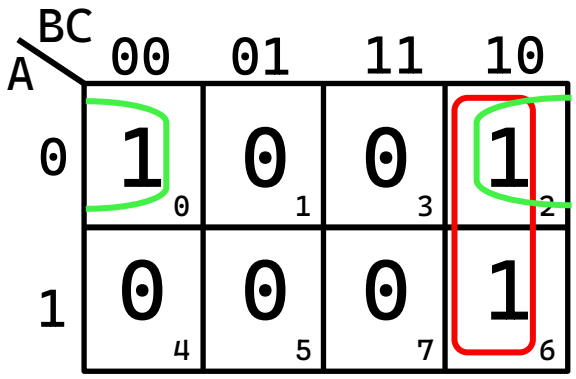
c = C+A+B'

Minterm = ∑m(0,2,3,5,6)



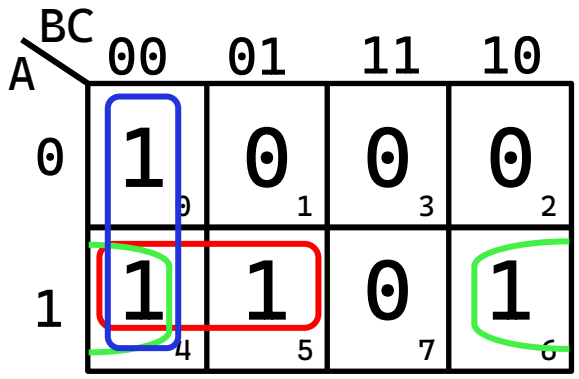
d = BC'+A'B+A'C'+AB'C

Minterm = ∑m(0,2,6)



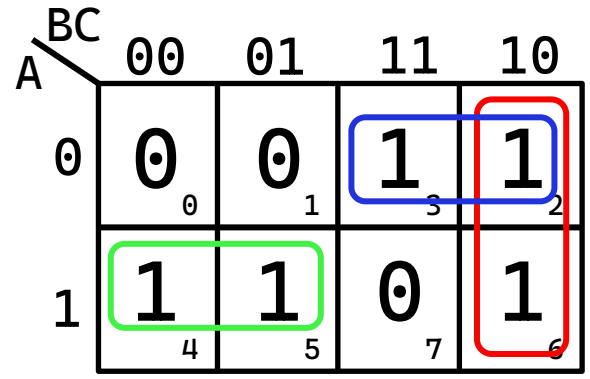
e = BC'+A'C'

Minterm = ∑m(0,4,5,6)



f = AB'+AC'+B'C'

Minterm = ∑m(2,3,4,5,6)



g = BC'+AB'+A'B

Simulated Circuit