Assignment-6

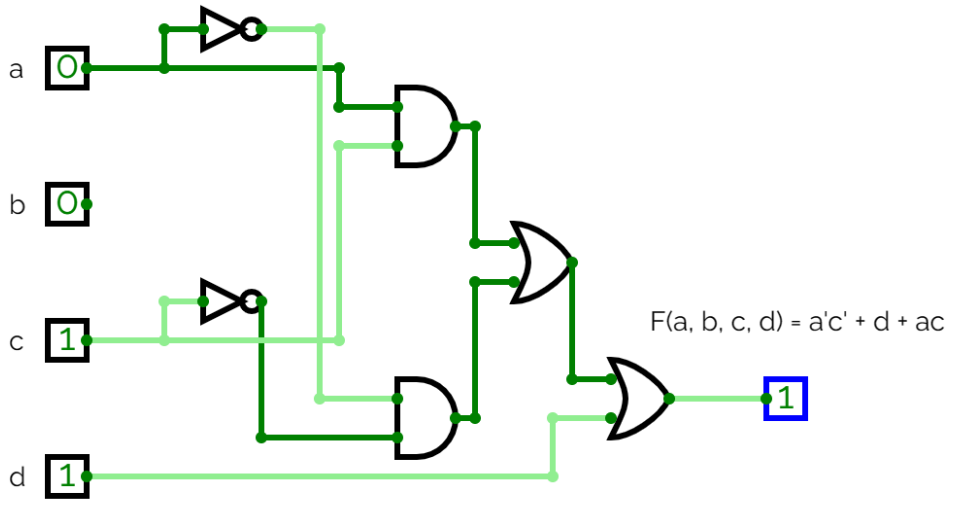
Sambhav Kaushik | SK10 | 22220CMP023

- **Problem 1:** F(a, b, c, d) = Σ(0, 1, 5, 9, 13, 14, 15) + dΣ(3, 4, 7, 10, 11)

K-map	cd	00	01	11	10
ab	-	-	-	-	-
00	-	1	1	X	0
01	-	X	1	X	0
11	-	0	1	1	1
10	-	0	1	X	X

F(a, b, c, d) =a'c' + d + ac

Circuit:

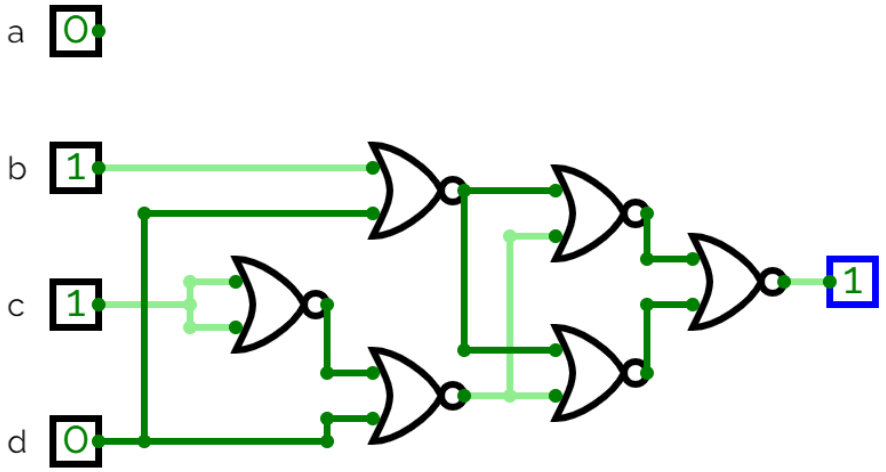


- **Problem 2:** F(a, b, c, d) = (b'c'd' + bcd' + abcd') + d(b'cd' + a'bc'd)

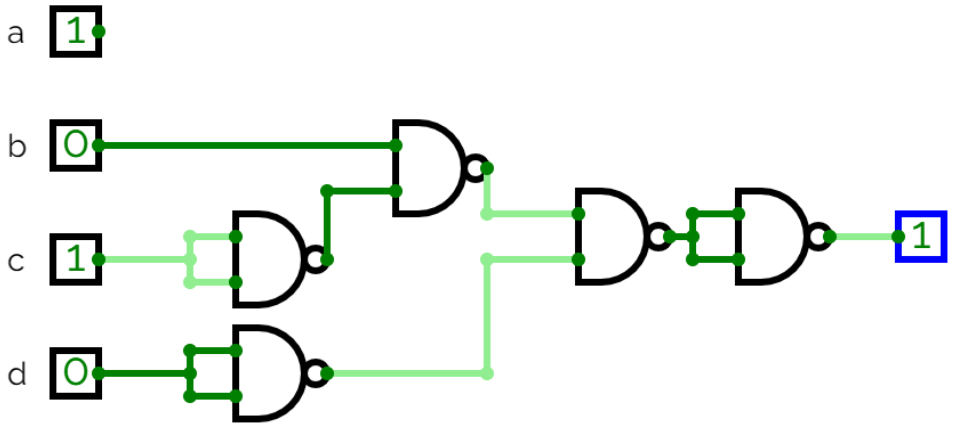
K-map	cd	00	01	11	10
ab	-	-	-	-	-
00	-	1	0	0	X
01	-	0	X	0	1
11	-	0	0	0	1
10	-	1	0	0	X

F(a, b, c, d) =b'd' +cd'

Circuit:



Logic Diagram using only NOR Gates



Logic Diagram using only NAND Gates