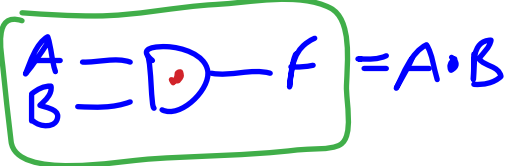
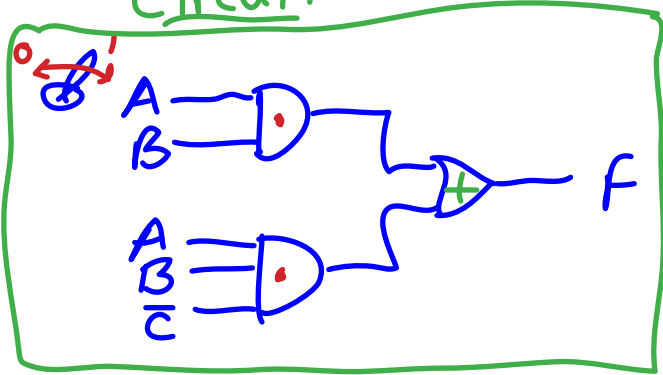


Boolean functions, ^{sum}

$$F(A, B, C) = \underbrace{A \cdot B}_{\text{products}} + \underbrace{A \cdot B \cdot \bar{C}}_{\text{products}} = \text{SOP}$$

= Sum of products

Circuit



Boolean Algebra

$$F = \underbrace{AB}_{x} + \underbrace{ABC\bar{C}}_{x \cdot y}$$

= ? pattern matching

$$\text{let } x = AB$$

$$y = \bar{C}$$

$$x + xy = \underline{x} = AB$$

$F = AB$ simplified.

Truth Table

ABC	$A \cdot B$	$A \cdot B$	^{minterm} $A \cdot B \cdot \bar{C}$	$F = AB + \cancel{ABC\bar{C}}$
000	0	0	0	$0+0=0$
001	0	0	0	$0+0=0$
010	0	-	0	0
011	0	-	0	0
100	0	-	0	0
101	0	-	0	0
110	-	-	1	$1+1=1$
111	-	-	0	$1+0=1$