

Lecture 5

Announcements

First practical: 23/9 and 26/9 - Lab 1 posted - pre lab quiz due 09:00 on first practical day - Demonstrate working circuits in lab - Online submission

Product of Sums

- Maxterms
 - Each maxterm includes

$$\begin{cases} x_i & x_i = 0 \\ \text{if } \overline{x_i} & \text{if } x_i = 1 \end{cases}$$

- f is equal to the product of the maxterms
- Both approaches work and are equivalent

Boolean Algebra

- Axioms
 - $0 \cdot 0 = 0$
 - $1 \cdot 1 = 1$
 - $0 \cdot 1 = 1 \cdot 0 = 0$
 - if $x = 0$, $\overline{x} = 1$
 - Duality: given a logic expression, we can swap 0 with 1 and \cdot with $+$ and the expression is still valid