

Objective

By the end of this module, you will be able to:

1. Understand the purpose of a Karnaugh Map (K-Map) as a visual tool for simplifying digital logic.
2. Correctly create a K-Map for functions with 2, 3, or 4 input variables.
3. Translate a Boolean function or a truth table into its corresponding K-Map representation.
4. Apply the rules for grouping adjacent cells to find the simplest possible logic expression.
5. Use "don't care" conditions (X) effectively to achieve better simplification.
6. Derive the simplified Sum-of-Products (SOP) boolean function from a completed K-Map.
7. Recognize that a simplified function results in a more efficient electronic circuit with fewer logic gates.

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