

Karnaugh Maps

Truth tables are used to completely specify a combinational hardware element, commonly called a logic block. A logic block with n inputs has 2^n entries in the truth table

Karnaugh Maps (K-Maps) are used to simplify boolean expressions derived from truth tables. Each cell in a K-Map corresponds to a row in the truth table, and groups of cells are used to minimize logic functions.

- Group sizes must be powers of 2 (1, 2, 4, 8)
- Wraparound grouping is allowed, connecting opposite edges of the map.
- "Don't-care" conditions (X) can be used to form larger groups for simplification