

McGraw Hill Companies



**Sixth Edition**

# **DIGITAL PRINCIPLES AND APPLICATIONS**

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**A SUMMARY OF THE CHANGES**

A summary of how each chapter is modified in this edition is as follows.

In Chapter 1, a reference to "Optical Memory" has been added which is an integral part of modern Digital Systems.

In Chapter 2, the universality of NAND and NOR logic is discussed in detail.

In Chapter 3, the concept of Karnaugh Variable Map is introduced which is useful in simplifying logic expressions in lower dimensions. Connections between Sum-of-Products and Product-of-Sums forms, based upon duality, are also discussed. Logic minimization using Quine's Clustering method is discussed which is useful for minimization of five or more variables and for the case of the form of a particular code. The accompanying Web site of the book contains the software for the computer-based. The coverage of hardware minimization is also expanded to cover the use of Binary Decision Diagrams and their application in logic design.

In Chapter 4, the logic Multiplier and Divisor are discussed as applications of the full adder. The full adder and full subtractor are also discussed in detail.

In Chapter 5, the concept of Gray Code and its applications are discussed in detail.

In Chapter 6, the concept of Full Adder and Full Subtractor are discussed in detail.