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Nota di contenuto	Front cover; Title page; Copyright page; Dedication; Table of contents; Foreword; Preface; Organization of the Book; To the Instructor; To the Student; To the Professional; Book Websites with Resources; Acknowledgments for the First Edition of the Book; Acknowledgments for the Second Edition of the Book; 1 Introduction; 1.1 What Motivated Data Mining? Why Is It Important?; 1.2 So, What Is Data Mining?; 1.3 Data Mining-On What Kind of Data?; 1.4 Data Mining Functionalities-What Kinds of Patterns Can Be Mined?; 1.5 Are All of the Patterns Interesting?; 1.6 Classification of Data Mining Systems 1.7 Data Mining Task Primitives1.8 Integration of a Data Mining System with a Database or Data Warehouse System; 1.9 Major Issues in Data Mining; 1.10 Summary; Exercises; Bibliographic Notes; 2 Data Preprocessing; 2.1 Why Preprocess the Data?; 2.2 Descriptive Data Summarization; 2.3 Data Cleaning; 2.4 Data Integration and Transformation; 2.5 Data Reduction; 2.6 Data Discretization and Concept Hierarchy Generation; 2.7 Summary; Exercises; Bibliographic Notes; 3 Data Warehouse and OLAP Technology: An Overview; 3.1 What Is a Data Warehouse?; 3.2 A Multidimensional Data Model 3.3 Data Warehouse Architecture3.4 Data Warehouse Implementation;

3.5 From Data Warehousing to Data Mining; 3.6 Summary; Exercises; Bibliographic Notes; 4 Data Cube Computation and Data Generalization; 4.1 Efficient Methods for Data Cube Computation; 4.2 Further Development of Data Cube and OLAP Technology; 4.3 Attribute-Oriented Induction-An Alternative Method for Data Generalization and Concept Description; 4.4 Summary; Exercises; Bibliographic Notes; 5 Mining Frequent Patterns, Associations, and Correlations; 5.1 Basic Concepts and a Road Map  
5.2 Efficient and Scalable Frequent Itemset Mining Methods  
5.3 Mining Various Kinds of Association Rules; 5.4 From Association Mining to Correlation Analysis; 5.5 Constraint-Based Association Mining; 5.6 Summary; Exercises; Bibliographic Notes; 6 Classification and Prediction; 6.1 What Is Classification? What Is Prediction?; 6.2 Issues Regarding Classification and Prediction; 6.3 Classification by Decision Tree Induction; 6.4 Bayesian Classification; 6.5 Rule-Based Classification; 6.6 Classification by Backpropagation; 6.7 Support Vector Machines  
6.8 Associative Classification: Classification by Association Rule Analysis  
6.9 Lazy Learners (or Learning from Your Neighbors); 6.10 Other Classification Methods; 6.11 Prediction; 6.12 Accuracy and Error Measures; 6.13 Evaluating the Accuracy of a Classifier or Predictor; 6.14 Ensemble Methods-Increasing the Accuracy; 6.15 Model Selection; 6.16 Summary; Exercises; Bibliographic Notes; 7 Cluster Analysis; 7.1 What Is Cluster Analysis?; 7.2 Types of Data in Cluster Analysis; 7.3 A Categorization of Major Clustering Methods; 7.4 Partitioning Methods; 7.5 Hierarchical Methods  
7.6 Density-Based Methods

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## Sommario/riassunto

Our ability to generate and collect data has been increasing rapidly. Not only are all of our business, scientific, and government transactions now computerized, but the widespread use of digital cameras, publication tools, and bar codes also generate data. On the collection side, scanned text and image platforms, satellite remote sensing systems, and the World Wide Web have flooded us with a tremendous amount of data. This explosive growth has generated an even more urgent need for new techniques and automated tools that can help us transform this data into useful information and knowledge.<b

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