

Data Management

Databases and Organizations

Richard T. Watson

Department of MIS

Terry College of Business
The University of Georgia

6th edition

March 5, 2017

Copyright © 2013-2017 Richard T. Watson

eGreen Press, Athens, GA



Table of Contents

Section 1: The Managerial Perspective	7
1. Managing Data	10
2. Information	30
Section 2: Data Modeling and SQL	50
3. The Single Entity	52
4. The One-to-Many Relationship	80
5. The Many-to-Many Relationship	103
6. One-to-One and Recursive Relationships	124
7. Data Modeling	142
Reference 1: Basic Structures	180
8. Normalization and Other Data Modeling Methods	191
9. The Relational Model and Relational Algebra	206
10. SQL	222
Reference 2: SQL Playbook	256
Section 3: Advanced Data Management	257
11. Spatial and Temporal Data Management	258
12. XML: Managing Data Exchange	274
13. Organizational Intelligence	296
14. Introduction to R	319
15. Data visualization	338
16. Text mining & natural language processing	362
17. HDFS & MapReduce	384
18. Dashboards	406
Section 4: Managing Organizational Memory	420
19. Data Structure and Storage	422
20. Data Processing Architectures	448
21. SQL and Java	468
22. Data Integrity	482
23. Data Administration	510