

A.I.S. Class 19: Outline

- Midterm Examination Review
- Learning Objectives for Chapter 3
- Database Foundations
- Group Work for Chapter 3

Midterm Examination

■ Mean Scores

* Section 01	177.2	
* Section 02	176.2	
* Section 05	173.7	
* Overall	175.5	70.2%
* Fall 1999		73.2%
* Fall 1998		70.1%
* Fall 1997		63.3%
* Fall 1996		69.7%

Midterm Examination

■ Low	106	42.4%
■ Mean	175.5	70.2%
■ STD	21.10	
■ Median	178	71.2%
■ High	214	85.6%

Midterm Examination Review

Learning Objectives for Chapter 3

■ Important topics covered include:

- ◆ Differences between double-entry bookkeeping and database accounting systems
- ◆ Advantages and disadvantages of database accounting systems
- ◆ Business activity classifications
- ◆ Transaction cycles
- ◆ The relationship between accounting systems and database systems
- ◆ A brief history leading to the development of database management systems (DBMS's)
- ◆ Functions of database management systems

Learning Objectives for Chapter 3

- ◆ The theory and application of relational database management systems (RDBMS's)
- ◆ The structure of objects to capture accounting events
- ◆ Why it is important to optimize tables using normalization procedures
- ◆ Performing database selections, projections, and joins

Accounting Databases in Transaction Cycles

■ Advantages of Database Accounting Systems

- * Lower data storage costs
- * Eliminate data redundancy
- * Eliminate data inconsistencies
- * Avoid duplicate processing
- * Ease add, delete, and update maintenance
- * Make data independent of applications

Accounting Databases in Transaction Cycles

■ Advantages of Database Accounting Systems

- * Centralize data management
- * Centralize data security
- * Ease report modifications and updates
- * Provide ad hoc query facilities
- * Facilitate cross-functional data analysis
- * Permit multiple users simultaneous access

Accounting Databases in Transaction Cycles

■ Disadvantages of Database Accounting Systems

- * Greater hardware requirements
- * Database software itself
- * Employing a database administrator
- * System operation becomes critical
- * Incorrect data entry disrupts many users
- * Territorial disputes over data ownership

Accounting Databases in Transaction Cycles

■ Service Firms

- * Income and expenses

■ Merchandising Firms

- * Income, cost of goods sold, and expenses

■ Manufacturing Firms

- * Income, cost of goods sold, cost of goods manufactured, and expenses

Transaction Cycles

■ Revenue

* Events

- ◆ Customer orders
- ◆ Sales
- ◆ Customer payments

Transaction Cycles

■ Revenue

* Reports

- ◆ Sales orders
- ◆ Invoices
- ◆ Shipping documents
- ◆ Remittance advices
- ◆ Cash receipts summaries
- ◆ Sales analyses
- ◆ Balances owed by customers

Transaction Cycles

■ Revenue

* Tables

- ◆ Cash receipt
- ◆ Customer
- ◆ Finished goods inventory
- ◆ Sales
- ◆ Sales order
- ◆ Salesperson

Transaction Cycles

■ Purchase

* Events

- ◆ Purchase orders
- ◆ Receipt of goods ordered
- ◆ Payments to vendors

Transaction Cycles

■ Purchase

* Reports

- ◆ Purchase orders
- ◆ Receiving reports
- ◆ Checks
- ◆ Backorder reports
- ◆ Purchase summaries
- ◆ Goods received summaries
- ◆ Balances owed to vendors

Transaction Cycles

■ Purchase

* Tables

- ◆ Cash disbursement
- ◆ Purchase orders
- ◆ Raw materials inventory
- ◆ Raw materials inventory receipt
- ◆ Vendor

Transaction Cycles

■ Payroll

* Events

- ◆ Employees earn pay
- ◆ Payment to employees
- ◆ Payment of payroll taxes, etc

Transaction Cycles

■ Payroll

* Reports

- ◆ Employee time reports
- ◆ Employee commission reports
- ◆ Checks
- ◆ Payroll registers
- ◆ Employee earnings records

Transaction Cycles

■ Payroll

* Tables

- ◆ Cash disbursement
- ◆ Employee
- ◆ Time worked

Transaction Cycles

■ Production

* Events

- ◆ Materials inventory costs flow into production
- ◆ Labor costs flow into production
- ◆ Overhead costs flow into production
- ◆ Total production costs flow into finished goods inventory

Transaction Cycles

■ Production

* Reports

- ◆ Bills of materials
- ◆ Job cost reports

Transaction Cycles

■ Production

* Tables

- ◆ Finished goods inventory
- ◆ Job
- ◆ Raw materials inventory
- ◆ Time worked

Database Foundations

■ Functions of a DBMS

- * Efficient data maintenance
- * User-accessible catalog
 - ◆ the data dictionary is itself a database file accessible by the user
- * Concurrency control
 - ◆ proper lock-out of multiple users
- * Transaction support
 - ◆ an entire transaction is processed, or none of it is (in the event of a system failure)
- * Recovery services
- * Security and authorization services
- * Integrity facilities
 - ◆ conditions or restrictions on valid data in database

Database Foundations

■ Terminology

- * Relation, tuple, attribute
- * Table, row, column
- * File, record, field

Database Foundations

- Other main topics already covered
 - * Historical v. Modern information systems
 - * Advantages and disadvantages of DBMS
 - * RDBMS terminology
 - * Database Normalization
 - * Entity-Relationship Models

Database Foundations

■ SQL

- * Select

- * Project

- * Join

Database Foundations

- Equijoins (p. 153)
- Outer Joins (p. 154)
- Recursive relations (p. 159)

Group Work for Chapter 3

■ Discussion Questions 1, 2