Oracle JDBC
-- Java Data Base Connection

Dr. Yu Chen
Based on
Oracle8 Programming: A Primer

What is JDBC?
- An Application Programming Interface (API) that enables database access in Java
- Consists of a set of classes and interfaces written in Java
- Allows the programmer to send SQL statements to a database server for execution and to retrieve query results

Advantages of using JDBC
- Portability across database servers
  - resulted from the JDBC API
- Portability across hardware architectures
  - Resulted from the Java language
- Example: banking.java

Developing JDBC Applications
- Import the JDBC classes (java.sql.*)
- Load the JDBC drivers
- Connect to the database
- Interact with the database using JDBC
- Disconnect from the database
Preparing the Connection

- Loading the JDBC Drivers
- Connecting to the Database

The Connection Object

- Statement, used for SQL statements without parameters
- PreparedStatement, used when the same statement to be executed multiple times with possibly different parameters
- CallableStatement, used for executing stored procedures

Instantiation and Methods

- Three ways to create the instances of these classes:
  - createStatement
  - prepareStatement
  - prepareCall
- Useful methods
  - close, setAutoCommit, commit, rollback, getMetaData

Nonquery SQL Statements

- createStatement
- prepareStatement
- prepareCall
Executing SQL Queries
- `executeQuery()`

Processing the Results
- ResultSet Class
- ResultSet Methods
  - `next`
  - `close`
  - `getString`
  - `getMetaData`
  - `findColumn`

Processing the Results (cont’d)
- ResultSetMetadata class
  - Provides the ability to find out about the types and properties of columns in a ResultSet object