ANNOUNCEMENTS

- Check class announcements daily
- You must implement programming projects by yourself
**RELATIONAL DATABASES**

- **Database** → group/collection of data that can be accessed, updated and manipulated

- **Database model** → How the data is organized (defines different kinds of databases)
  - Relational database model
    - Data organized in relations (tables)
    - Introduced by E.F. Codd
    - Most popular databases based on this model
  - Object database model
  - Hierarchical model
  - Network model

- **Database Management System (DBMS)**
  - Software controlling the use of a database
  - **RDBMS** → Relational Database Management System
**RELATIONAL MODEL**

- Database is a collection of tables
- Each table has rows and columns
- A column (field) represents a particular entity (e.g., name, address, etc.)
  - Field Types
    - String
    - Integer
    - Float
    - Enum
    - etc.
- SQL (Structured Query Language)
  - Allow us to retrieve, update, manage the database
  - Example: select * from friends;
- SQL Operations
  - selections
  - projections
  - joins
  - table/Index management
SQL COMMANDS REVIEW

- help contents;
- show databases;
- create database myDB;
- use myDB;
- show tables;
- create table friends (name varchar(20) primary key, gender enum('M','F'), salary float, id int);
- describe friends;
- insert into friends values ("Mary", "F", 10000, 10);
- insert into friends (name) values ("Jose");
- select * from friends where salary > 5000;
- select name,id from friends where salary > 5000;
- update friends set salary=7778, gender="F" where name = "Pat";
- delete from friends where name="Pat";
- show grants;
- drop table friends;
- drop database myDB;
DATABASE TRANSACTIONS

- Transaction → group of SQL statements that must be executed as a batch
- Transaction semantics
  - start transaction
  - commit
  - rollback
- Example:
  - Selecting CDs, books from online store and then cancelling before checking out
RDBMS

- **Systems**
  - Oracle ➔ [http://www.oracle.com](http://www.oracle.com)
  - Sybase ➔ [http://www.sybase.com](http://www.sybase.com)
ROLE OF DATABASES IN WEB APPLICATIONS

- Main data repository
- Let’s see an application example
  - Airline reservation system
- What is the role played by:
  - HTML
  - JavaScript
  - PHP (server-side processing language)
Example: DefaultValue.html
JQUERY

- JavaScript library that allows
  - Event Handling
  - HTML document traversing
  - Ajax Interactions
- Main site
  - http://jquery.com/
- Example from JQuery site
  - $('p.neat').addClass('ohmy').show('slow');
  - You can execute it by visiting the jQuery site
You need access to the jQuery library by either downloading it or relying on another mechanism (e.g. Google’s CDN)

Next statement allow us to wait until the document is ready to be manipulated (DOM is fully loaded)

```javascript
$(document).ready(function() {
    // this is the ready event
});
```

The above code should appear in a .js file that is included the main html file

**Example:** jQueryBasics.html
List of events

http://api.jquery.com/category/events/

Shortcut for $(document).ready

http://docs.jquery.com/Tutorials:Multiple_%24%28document%29.ready%28%29

General documentation

http://docs.jquery.com/Main_Page
JQUERY USER INTERFACES

- JavaScript library based on Jquery
  - [http://jqueryui.com/](http://jqueryui.com/)
- Example: DatePicker.html
- See Demos
  - [http://jqueryui.com/demos/](http://jqueryui.com/demos/)