Announcements

- Check class announcements daily
- You must implement programming projects by yourself
Model-View-Controller (MVC)

- Model for GUI programming (Xerox PARC ’78)
- Separates GUI into 3 components
  1. Model ⇒ application data
  2. View ⇒ visual interface
  3. Controller ⇒ user interaction
MVC Model of GUI Design

- **Model**
  - Should perform actual work
  - Should be independent of the GUI
    - But can provide access methods

- **Controller**
  - Lets user *control* what work the program is doing
  - Design of controller depends on model

- **View**
  - Lets user see what the program is doing
  - Should not display what controller *thinks* is happening (base display on model, not controller)
Model View-Controller

- How should we design our systems using this model?
- **Example:** AverageComputation.html,
- **Example:** AverageComputationMVC.html
- Let’s think about our projects and the use of MVC
Design: 2-Dim Application (Tic Tac Toe)

- How can we implement such a system?
Design: 2-Dim Application (Order Values)

- A board has a blank piece we can move which pushes numbers in the opposite direction
- How can we implement such a system?
Design: 2-Dim Application (Sudoku)

- Sudoku validator
- How can we implement such a validator?
innerHTML property

- Property defining:
  - HTML code
  - Text occurring between the opening and closing tags of the element
- Allows you to modify/define HTML content
- **Example:** GetContent.html
- **Example:** ModifyContent.html
  - What happens if you keep selecting the Modify button?
Applets

- Applet → Java program that can be run in a browser. The program is represented by a file with the .class extension.

- Web sites with Java Applets
  - Sites provide instructions on how to install the applet and the parameters you need to specify.
  - [http://freewarejava.com/](http://freewarejava.com/)

- Two main types of Java Applets
  - **Type 1**: You only need one file (a `<fileName>.class file`
  - **Type 2**: You need other files besides the main `<fileName>.class file`). A folder with all the required files needs to be specified.

- Example: AppletExampleOne (Type 1)

- Example: AppletExampleTwo (Type 2)
  - Based on [http://javaboutique.internet.com/BallDrop/](http://javaboutique.internet.com/BallDrop/)
Server Side Includes

- What are they?
- Why you want to use them?
  - To include a file in other files.
  - To display file modification time.
  - To display current date.
  - Others
- Example:
Web Page Example (Tab-Based Page)

- Example: