Announcements

- Check class announcements daily
- You must implement programming projects by yourself
Events

- **Event** – Notification that something has occurred
- Example of situations that make the web browser generate an event
  - Browser finishes loading a document
  - When the user clicks on a button
  - When the user moves the mouse
  - Others
- **Event handler** (also known as event listener)
  - JavaScript function or code fragment that is executed when a particular event occurs
- **Event handler registration**
  - Associating an event handler with a particular event
- **Example**: EventEx.html
Event-driven Programming

- Normal (control flow-based) programming
  - Approach
    - Start at main()
    - Continue until end of program or exit()

- Event-driven programming
  - Start at main()
  - Register event handlers.
  - Await events & perform associated computation

- GUIs (Graphical User Interfaces)
  - Example of event-driven software
Event Handler Attributes for most HTML

- **Mouse Related**
  - `onclick` – mouse button is pressed and released
  - `ondblclick` – mouse button is double-click over element
  - `onmouseover` – mouse moves over element
  - `onmouseout` – mouse moves off element
  - `onmousemove` – mouse pointer is moved
  - `onmousedown` – mouse is pressed down while cursor is over the element
  - `onmouseup` – mouse is released while the cursor is over the element

- **Keyboard Related**
  - `onkeypress` – key pressed and released
  - `onkeydown` – key is pressed
  - `onkeyup` – key is released

- **Other**
  - Keep in mind that there additional handlers that are specific to certain tags. We will address those later on
HTML Forms

- **Forms** - means by which information passes from the user to a server
- For now we will use forms to read values to be processed by our JavaScript programs

- **<form> tag**
  - Defines the form.
  - It has two attributes: action and method
  - **action** – indicates where the form contents will be sent when the form is submitted
  - **method** – defines how the contents will be sent (post/get)

- **<input> tag**
  - Appears inside of the <form> tag
  - Defines several input data alternatives.
  - The general format is: `<input type="ALTERNATIVE" />`
  - **ALTERNATIVE** can be text, password, checkbox, radio, file, submit, image, button, reset, hidden

- We have can several forms in our document

- **Example:** AssociateButtonWithFunctionV1.html
Accessing Data Associated with HTML

- As we saw we can access data in forms by using
  \[
  \text{document.getElementById(} \text{"elementId"}) ;
  \]
  \text{getElementById returns a reference to an element that we can use to:}
  - Retrieve the value of the element (e.g., text field in a form)
    \[
    \text{var login} = \text{document.getElementById(} \text{"loginId"}).value;
    \]
  - Set the function to call when an element is clicked on (e.g., button)
    \[
    \text{document.getElementById(} \text{"processButton"}).onclick = \text{functionDoesProcessing} ;
    \]
  - Get/Set Attributes
    \[
    \text{var imageElement} = \text{document.getElementById(} \text{"myImage"}) ;
    \text{var imageName} = \text{imageElement.getAttribute(} \text{"src"}) ;
    \text{imageElement.setAttribute(} \text{"src"}, \text{"imageFile.jpg"}) ;
    \]
- **Example:** AssociateButtonWithFunctionV2.html
- **Example:** GetValueInTextField.html
- **Example:** UpdateValueInTextField.html
- **Example:** GetSetAttribute.html
Reset

- The functionality of the Reset button is already provided by HTML. You don't need to add any JavaScript or define a button.
- You can change the text associated with the Reset button by using the `value` attribute.
- **Example:** `Reset.html`
Examples

- **Example:** PhotoViewer.html
- **Example:** Animation.html