Introduction to Javascript
- Variables & Expressions

Jasleen Kaur

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- HTML: static, tedious
  - HTML: no interaction, no economies
    - e.g., create a table with 20 rows, 20 columns.
      - bigtable.html
    - How many <td> entries?
      - 400 !
    - How to make this easy/scalable?
  - Using language called Javascript (JS)
    - Embed JS code in HTML
    - Code is executed as HTML is displayed
  - Example:
      - 28 lines, not 400+
Javascript: safe or dangerous?

- Javascript code is executed by your browser (PC)
  - Code written by unknown person is executed on my machine!
    - Danger!

- But
  - Browsers (hopefully) prevent misbehaviors
  - JS does not allow certain things
    - e.g., can't write/erase a file
  - Safe? ☑

JS: a programming language

- Programming languages also have rules of grammar

  - Syntax rules
    - Which statements are legal and which are not
      - e.g., “I am smart.” vs. “I are smart.”

  - Semantic rules
    - Determine the meaning of the instruction
      - e.g.:
        - “I like this honey.”
        - “I like this, honey.”
JS code: intro

```html
<script type="text/javascript">
JS code
</script>
```

- **Comments:**
  - `//` to end of line
  - `/* ... */` spans multiple lines till ...

So we have HTML comments and JS comments

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alert

```javascript
alert("any message");
```

- **Opens an alert window**
  - Have to click OK to continue
    - Stops, waits for OK, continues... (try this)

- **Note:**
  - `;` : all statements in JS end with ;
  - " ... " : strings are specified within double-quotes
    - Can put (almost) anything within the double-quotes
    - To put " in string, use: \"
      - Similarly, use: \" \"
  - Tab: \t
  - Newline: \n
How many characters in: "I said \"hello\" to him" ?
Can generate HTML with JS

document.write("any HTML text");

- Why bother?
  - We wanted to generate an HTML table, remember?
  - Can also facilitate communication between JS and HTML

- Examples:
  - JS code that does something on HTML button click
  - Change content of text
  - Decode: read what user entered and do something with it