Introduction to Internet Technology and Web Programming

Computer Science 103
Boston University
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These notes are based on the lecture notes provided by Professor Susan Worst.

Lecture 10-2

BU CS 103, Spring 2019

What will be Covered Today?

- WordPress (part 2)
- JavaScript basics (part 2)

Assignments

- New Assignments
  - **Lab 9 challenge** (during tomorrow's lab)
  - **No Lab 9 Assignment**
- Deadlines
  - **HW 5** due was today at 6:00 pm
    - ✓There is no late submission period
  - **Lab 8 Assignment** due is Friday at 6:00 pm.
    - ✓There is no late submission period
  - **HW6** due is Tuesday 04/16 at 6:00 pm.

Midterm Exam 2

- A practice exam is posted on BB.
- The solution for midterm exam 1 is also posted on BB.

Show and Tell Day

- 8 students have signed up yet!
- There is space for 2 to 4 more students.
- If you are interested, please send me an email asap.

Key WordPress Concepts, 1

- **Post**
  - A piece of content (news story, recipe) with a date and an author.
  - Part of a blog.
- **Blog (Web log)**
  - A list of posts in reverse order.
  - Abbreviation for "weblog"
- **Page (Web page)**
  - Something you have created so far with HTML files in the assignments.
  - No date, no author.
  - Something that should always be visible
  - They are not supposed to change by the website users.

Key WordPress Concepts, 2

- **Theme**
  - WordPress visual design
  - Usually written by outside designers
- **Widget**
  - Drag and drop component of a web page
- **Plugin**
  - Third-party code
  - Usually adds interactivity
  - Never use plugins that haven't been updated in 6 months or more

Key WordPress Concepts, 3

- **Editor**
  - Screen used to write pages and posts
  - Use the Text view to write HTML
  - Use the Visual otherwise
- **Customization**
  - Changes to your theme, plugin, etc. that you can make without editing any code
- **Configuration**
  - Changes you make by editing code
  - Must be redone after updates to WordPress, themes, or plugins
  - Customization is better than configuration.

WordPress Challenges

- Every theme is different
  - Features and navigation are not standard
  - Requires patient exploration
- WordPress is very popular
  - Keep everything updated!
  - Get rid of anything you are not using

A demonstration for HW6:
Building a Wordpress Website

For HW 6: Extra Credit by doing some PHP coding (**Configuration**)

- For extra credit point, add your Creative Commons license or copyright to the footer of your WordPress site
- Your WordPress theme may allow you to put your own text in the footer. (**customization**)
- Otherwise, to add text to the footer, you'll need to CAREFULLY edit the footer.php file (**configuration**)
- Customization is better than configuration because it will be preserved when you upgrade.

Configuring the WordPress Footer

- Make a copy of the file in File Manager before you start
- Remember that, within the file, PHP code starts with

<?php
and ends with
?>

- Don't disturb any of the PHP.

JavaScript Programming for the Web

So far …

- What is it for? Add interactive features to our pages.
- It isn't Java
- Where does it run? In a browser like Firefox.
- The Basics!
  - Every line of code must end in **a semicolon** ;
  - Comments in JavaScript start with **two slashes** //
  - **Variables:** We use the ***let*** or **var** keyword to create a variable
  - creating a variable and assigning a value in one line:

```
let studentAge = 22;
```

  - Operators: `let c = 12 * 16;`

So far …

- JavaScript is incorporated into HTML pages using the **script tag**
- We can do both internal and external JS coding
- The script tag must have a closing tag
- The script tag can appear in the head or the body of an HTML page
- How a browser recognize a JavaScript file?
  - External JavaScript files are ordinary text files (like HTML and CSS) which end in .js
- How a browser recognize a JavaScript piece of code?
  - Internal JavaScript codes are places between **<script>…</script>** tags

So far …

There are multiple ways to see the output of a JS code:

- console.log()
- alert()

```
alert("Hello World");
```

- prompt()

```
prompt("Print your name:");
```

- document.write()

```
document.write("Hello World");
```

- innerHTML

```
document.getElementById("main").innerHTML= "Hello World";
```

Lets make a website for adults!!!

1. This website is supposed to show users a warning message about age.
2. Then, there has to be another message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
4. Also, inside the document (the webpage), we would like to see a paragraph as following
   - A warning message asking to leave the page if user is less than 18
   - A welcome message if user is greater than or equal 18.
5. Also, if the user put anything except numbers greater than 0 and less than 150, ask the user to put an acceptable numerical answer.

Lets make a website for adults!!!

Lets do the first two requirements:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
4. Also, inside the document (the webpage), we would like to see a paragraph as following
   - A warning message asking to leave the page if user is less than 18
   - A welcome message if user is greater than or equal 18.
5. Also, if the user put anything except numbers greater than 0 and less than 150, ask the user to put an acceptable numerical answer.

Lets make a website for adults!!!

Lets do the first two requirements:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.

```
<script>

alert("to enter this website, you need to be at least 18 years old.");

prompt("How old are you?");

</script>
```

Lets make a website for adults!!!

Lets do the third requirement:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
4. Also, inside the document (the webpage), we would like to see a paragraph as following
   - A warning message asking to leave the page if user is less than 18
   - A welcome message if user is greater than or equal 18.
5. Also, if the user put anything except numbers greater than 0 and less than 150, ask the user to put an acceptable numerical answer.

Lets make a website for adults!!!

Lets do the third requirement:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
   - Here, we need to take advantage of variables, and store the user's answer into a variable.
   - Also, we need to learn about **conditional statements**

```
<script>
    alert("to enter this website, you need to be at least 18 years old.");
    var age = prompt("How old are you?");
</script>
```

Comparing things & Conditional Statements!

- We often want to know whether one thing is less than, greater than, or equal to another thing
  - a < b // is a less than b?
  - a > b // is a greater than b?
  - a == b // is a equal to b? (note double ==)
- All of these expressions result in either **true** or **false**
- True and false are called ***Boolean*** values

Conditional statements!

- Typically we want something to happen based on a comparison
- For example, "if a is less than b, then give c the value 22"
- The JavaScript reads just like the statement above

```
let a = 12;
let b = 16;
let c;
if (a < b) {
    alert("a is less than b");
     c = 22;
}
```

Otherwise …

- "if a is less than b, then give c the value 22, otherwise give c the value 9"
- The **else** keyword gives us this capability

```
let a = 12;
let b = 16;
let c;
if (a < b) {
    alert("a is less than b");
       c = 22;
}

else {
    alert("a is greater than b");
     c = 9;

}
```

Lets make a website for adults!!!

Lets do the third requirement:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.

```
<script>
    alert("to enter this website, you need to be at least 18 years old.");
    var age = prompt("How old are you?");
    if (age > 17) {
        alert("welcome!!!");
        }
    else {
        alert("you are not allowed to enter this website!");
        }
</script>
```

Lets make a website for adults!!!

Lets do the fourth requirement:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
4. Also, inside the document (the webpage), we would like to see a paragraph as following
   - A warning message asking to leave the page if user is less than 18
   - A welcome message if user is greater than or equal 18.
5. Also, if the user put anything except numbers greater than 0 and less than 150, ask the user to put an acceptable numerical answer.

Lets make a website for adults!!!

Lets do the fourth requirement we have two options:

Also, inside the document (the webpage), we would like to see a paragraph as following

- A warning message asking to leave the page if user is less than 18
- A welcome message if user is greater than or equal 18.

document.write()

```
document.write("Hello World");
```

innerHTML

```
document.getElementById("main").innerHTML= "Hello World";
```

Lets make a website for adults!!!

Lets do the fourth requirement we have two options:

Also, inside the document (the webpage), we would like to see a paragraph as following

- A warning message asking to leave the page if user is less than 18
- A welcome message if user is greater than or equal 18.

```
if (a > 17) {
    alert("welcome!!!");
    document.write("<h1> … </h1>");
}
else {
    alert("you are not allowed to enter this website!");
    document.write("<h1> … </h1>");
}
```

Lets make a website for adults!!!

Lets do the fifth requirement:

1. This website should show a pop-up warning message about age.
2. Then, there has to be another pop-up message to ask user's age.
3. Based on the answer, another message will be asked to show that if the user is or is not allowed to enter the website.
4. Also, inside the document (the webpage), we would like to see a paragraph as following
   - A warning message asking to leave the page if user is less than 18
   - A welcome message if user is greater than or equal 18.
5. Also, if the user put anything except numbers greater than 0 and less than 150, ask the user to put an acceptable numerical answer.

Do something more than once

- It's often the case that we need to do a set of steps several times
- JavaScript provides us a way with a **loop**

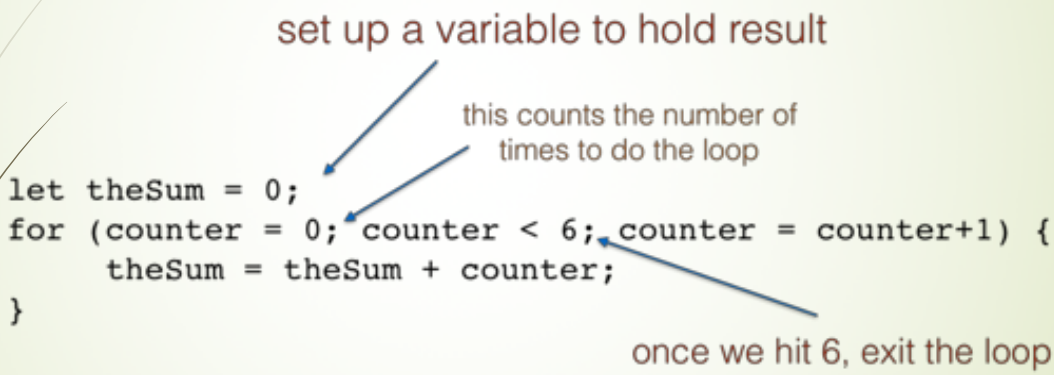
The FOR loop

- When you know how many times to do something
- "Sum the numbers from 0 to 5, i.e. 0+1+2+3+4+5"
- The loop uses a counting variable to count how many times we've done the loop

```
for (start point; end point; how to change count)
    for (count=0; count < 6; count += 1)
```

- This says 'start at zero, and as long as count is less than 6, run the loop and add one to the count'

The FOR loop …



Review from Last Lecture

According to W3Techs.com, which is NOT one of the 3 most common Content Management Systems right now?

A. Drupal
B. Joomla
C. Squarespace
D. WordPress

The opposite of a "dynamic" web page is a _____ web page.

A. Solid
B. Standing
C. Static
D. Stationary