Midterm 2 Review
What to expect?

Topics that you can expect questions from:

**JavaScript**
- JavaScript DOM
- JavaScript dynamic style
- JavaScript Animation
- JavaScript cookies
- JavaScript event handling

**PHP**
- Basic PHP
- PHP Output
- PHP Control structures
- PHP timestamp and related concepts
- PHP Functions
- PHP Arrays
What to expect?

You will be allowed two index cards to write whatever you want on them.

You are expected to know all material we have learned previously.

You will not be directly tested on old material, but for example you might have to write a JS form. Manipulating cookies requires knowledge of JS arrays etc.
What to expect?

JS DOM old stuff

• You know the basic ways of manipulating the DOM.
• You may be asked to create an element and include it into the DOM
• You may be asked to modify an existing element in the DOM
• You may be asked to remove an element from the DOM
JS dynamic style

1. Use a combination of CSS and dynamically setting class or id attributes

2. Set style property of a node object
Using existing CSS and dynamic class or id attributes

Suppose you have an element

```html
<p id="example"> Some text </p>
```

and suppose that you already have an existing CSS rule:

```css
.red {color: red}
```

We can dynamically change our paragraph to belong to the red class

```javascript
pnode = getElementById("example");
pnode.setAttribute("class", "red");
```

Similarly we could change the id attribute
2. Setting style directly

Syntax:
```
objnode.style.property = "value"
```

Example:
```
pnode = document.getElementById("my_paragraph");
pnode.style.color="red";
```

- Most properties you are used to from CSS are available.
- Properties with hyphen are written without the hyphen and with the word after the hyphen capitalized.

Eg. `z-index` is `zIndex`
Some available style properties

- style.border
- style.margin
- style.padding
- style.overflow
- style.display
- style.verticalAlign
- style.visibility
- style.listStyle
- style.borderCollapse
- style.textAlign
- style.textDecoration
- style.textIndent
- style.textTransform
- style.whitespace
- style.color
- style.font
- style.width
- style.top
- style.left
- style.right
- style.background
- style.zIndex
- style.height
- style.bottom
Review to files look at

dom2
dynamic_style
Box swap example (winter 2013)
Recall that key to animating was calling our animate function "recursively".

```javascript
function move_it()
{
    var px = divObj.style.left;
    px = parseInt(px);
    px++;
    divObj.style.left = px + "px";
    setTimeout("move_it()",(20);
}

function init()
{
    divObj = document.getElementById("box");
    divObj.style.position="absolute";
    divObj.style.left="10px";
    divObj.style.top="10px";
    move_it();
}
//-->
</script>
</head>
<body onload="init();">
  <div id="box"></div>
</body>
Your webpage contains the following HTML:

```html
<div id="container">

</div>
```

a) Write JS for a function called init(). This function should create a div element as a child of the container div and initially set its width and height to 0px.

b) Describe how we can run the function init after the browser has created the DOM for the webpage.

c) Write a JS function called animate(). This function should have a counter t (a global variable) that increments by 0.01 every time animate is called. We will change the dimensions of the div you created in part a) by the following formula: The width and the height of the div should be changed to 300*Math.sin(t) pixels. This has the effect of growing and shrinking the div in a cyclical fashion when the animate function is repeatedly called. (See demo). At the end of the function, create an event that calls the function again after 10 milliseconds.

Solutions in the review files called animate fall 2012
1. Create an *event handler*, a script that is designed to respond to a particular event

2. Connect the handler to the event (*registration*)

**Two approaches to handler registration**
- Assign an appropriate attribute to some tag.
- Assign a handler address to a DOM object property
Assign a tag attribute:

```html
<head>
  <title>Event Handler Example</title>
  <script type="text/javascript">
    <!--
      function load_greeting()
        { alert("whatup!");}
    // -->
    </script>
  </head>

<body onload="load_greeting()">
</body>
```
JS Events

In a head JavaScript script

```html
<script type="text/javascript">
    <!--
        function message() {alert("Thanks for clicking");}
    // -->
</script>
```

In the body

```html
<form id="messageBoard" action="">
    <input type="button" name="mybutton" id="mybutton"
        value="See a message" />
</form>
<script type="text/javascript">
    <!--
        document.getElementById("mybutton").onclick = message;
    // -->
</script>
```
Events I expect you to know:

onload, onclick, onmouseover, onmouseout.

Events I expect you to know how to code if I describe them to you: ALL!

Examples:
event1
event2
JS Resize
Setting cookie:

document.cookie = "Some string";

Getting a cookie string:

var cookie = document.cookie;

Normally we want to follow standard format:

document.cookie = "name=value; expires=date;"
JS Cookies

To modify a cookie just overwrite it:

```javascript
document.cookie = "my_cookie=Chocolate chip";
document.cookie = "my_cookie=Oatmeal raisin";
```

To define a new cookie without deleting the old one just define a new cookie:

```javascript
document.cookie = "my_cookie=Chocolate chip";
document.cookie = "visitors=Fry,Leela,Bender";
```

Full cookie string is now:

```javascript
my_cookie=Chocolate Chip; visitors=Fry,Leela,Bender;
```
JS cookie examples

cookie_fall_2012
cookie1, cookie2, cookie3
JS cookie
On the webpage there are two boxes. (See demo). Here is the relevant HTML.

```html
<body onload="init()">
    <div id="red">Red</div><div id="blue">Blue</div>
    <form>
        <input type="button" value="Result" onclick="result()"/>
    </form>
</body>
```

Our goal is to create the following effect. When the mouse is moved over the "red" div, the word "red" is added to the cookie called `colors` and when the mouse is moved over the "blue" div, the word "blue" is added to the `colors` cookie.

The cookie might look something like:

```
colors= red red blue red blue blue blue blue blue red
```
a) Write the function `init()`. This function should register on hover events to the "red" and "blue" divs. The handler functions should be called `updateCookieRed()` and `updateCookieBlue()`.

b) Write the handler function `updateCookieRed`. This function should append to the cookie colors the word "red". (There is a space in front of the word "red" so that the colors in the cookie are delimited by spaces.) You may assume that the colors cookie is the only cookie being used. The `updateCookieBlue` function is very similar so you need not write it.

c) When the user clicks on the button "result", we want to count up how many times the blue box has been hovered over and how many times the red box has been hovered over. Let's call these quantities `red_count` and `blue_count` respectively. Write a function that figures out `red_count` and `blue_count` from the cookie colors and then changes the font-size of the word "red" to \(10 + red\_count\) pixels and the font-size of the word "blue" to \(10 + blue\_count\) pixels. You may write any helper function you want.
Basics

There will probably not be any direct questions about basic things, but I can test you on them in connection with more complicated stuff.

Read over the slides to review basics such as: Variables, control structures, dynamic typing, functions, syntax in general.

Recall how output works in PHP.

What is the difference between ' ' and ""?
Arrays

We spent a while working with arrays so I will have questions involving arrays either in the midterm or the final.

You should definitely know how to traverse an array indexed by keys.

Example:
arrays.php (on website)
PHP time stuff

time()

Returns current UNIX timestamp (Number of seconds elapsed since Jan 1, 1970)

date($formatString, $intTimestamp)

Returns a string formatted according to the given format string using the given integer timestamp or the value of time() if no timestamp is given.

mktime($hr,$min,$sec,$m,$d,$y)
Examples:

Your homework assignment.

PHP date winter 2012
thanksgivings
Thanksgiving is on the 4th Thursday of every November. Write PHP code that outputs the dates of the next 20 Thanksgivings. Hint: For date function, the format string "D" returns a three letter abbreviation for a day (e.g. Thu for Thursday).
Examples:

See examples page for the calculator and email examples
Spring 2011
Consider the following XHTML form:

```
<p>In the form below please write what kind of animals your pets are and their names. Then click submit.</p>
<form action="www.pic.ucla.edu/~virtanen/process_form.php" method="get">
    Animal <input type="text" name="animal1"/>  Name <input type="text" name="name1"/><br/>
    Animal <input type="text" name="animal2"/>  Name <input type="text" name="name2"/><br/>
    <input type="submit" value="Submit"/>
</form>
```

When the user clicks submit, a PHP program `process_form.php` is called. `process_form` takes the information supplied by the user and writes it into a table form.

For example filling the form as below:

```
Animal  Dog  Name  Waldo
Animal  Cat  Name  Chloe
```

Should result in the following XHTML page being sent to the user:

```
<p>Animal  Dog  Name  Waldo<br/>
Animal  Cat  Name  Chloe</p>
```

Write the PHP code snippet to process the form data and to create the XHTML table. You need not have the PHP write any other XHTML than what is required for the table.