

Week 1 Lecture 2

Applied

Getting Ready

- Be comfortable with HTML, CSS, and poking around FireBug

What's in this lecture?

- JavaScript & JQuery Basics

JavaScript Basics

```
>>> |
```

```
|
```

```
>>> 2 + 2
```

```
4
```

```
>>> alert("hello " + "world")
```

```
>>> function f(x) { alert(x); }
```

```
>>> f("hello world")
```

Conditional Expressions

```
>>> (1 > 0)
```

```
true
```

```
>>> (3 <= 2)
```

```
false
```

```
>>> (4 == 4)
```

```
true
```

```
>>> "hello" == "hello"
```

```
true
```

Conditional Statements

```
if (l > 0) {  
    alert("got it!");  
} else {  
    alert("strange...");  
}
```

Definitions

`var x = 5; alert(x);`

`x = 10; alert(x);`

Functions

```
function f(x) { alert(x); }
```

```
function addXY(x, y) { return x + y; }
```

```
addXY(1, 2)
```

```
addXY(-7, 21)
```

```
function mulXY(x, y) { return x * y; }
```


Recursion

```
function countdown(x) {  
  if (x == 0) {  
    alert("BOOM!");  
  } else {  
    alert("tick");  
    countdown(x - 1);  
  }  
}
```

Iteration (for loop)

```
// for (initialization; condition; next_expr) {}
```

```
function countdown(x) {  
  for (var i = x; i > 0; i--) {  
    alert("tick");  
  }  
  alert("BOOM!");  
}
```

Iteration (tail recursion)

```
function factorial(n) { // driver function
    return fact_iter(n, 1);
}
```

```
function fact_iter(n, prod) {
    if (n == 1) {
        return prod;
    }
    return fact_iter(n - 1, n * prod);
}
```

Using JQuery

```
<html>
```

```
<head>
```

```
...
```

```
<script src="http://ajax.googleapis.com/ajax/  
libs/jquery/1.6.1/jquery.min.js" />
```

```
</head>
```

```
<body>
```

```
...
```

```
</body>
```

```
</html>
```

JQuery ID Selector

```
<html> ... <body>
<div id="foo">Foo: Click for Alert</div>
<script>
$("#foo").click(function() {
    alert("foo was clicked!");
});
</script>
</body></html>
```

JQuery Class Selector

```
<html> ... <body>
<div class="para">Para One</div>
<div class="para">Para Two</div>
<script>
$(".para").click(function() {
    alert("para clicked!");
});
</script>
</body></html>
```

JQuery Events

...

```
<head><style>
```

```
  p.hilite { background:gray; }
```

```
</style> ... </head>
```

```
<body>
```

```
  <p class="slider" >A Paragraph</p>
```

```
<script>
```

```
$(".slider").click(function () { $(this).slideUp(); });
```

```
$(".slider").hover(
```

```
  function () {$(this).addClass("hilite"); } ,
```

```
  function () { $(this).removeClass("hilite"); }
```

```
);
```

```
</script>
```

Resources

- <http://jquery.com>
- <http://api.jquery.com/id-selector/>
- <http://api.jquery.com/class-selector/>
- <http://api.jquery.com/click/>
- <https://developer.mozilla.org/en/JavaScript>

Exercises

- Take the personal pages from last time, and add dynamic behavior using JQuery: tooltips, hover effects; (extra credit: animations)