

# INTRODUCTION TO WEB DEVELOPMENT AND HTML

Lecture 14: Programming with JavaScript - Spring 2011

## Outline

## Programming with JavaScript

## Programming with JavaScript

- **Variable:** is used to store some information. (names, numbers, etc)
- **Operators**: They do "things" to variables:
  - Arithmetic: +, -, \*, /
  - ▶ Comparison: Compare strings, numbers, etc. For Example: 4 is equal to 5?
- Functions: A group of steps that will perform a desired operation
- Control Structures:
  - ▶ **Conditional**: if / else / swtich
  - Repeat: to repeat a single action or set of actions. for / while / break / continue

### Variables

- var userName = "Will Smith"
- alert(userName);
- Variables are Case sensitive!
- Must begin with a letter or an underscore.
- Use descriptive names for your variables

## **Operators**

- Arithmetic operators: + \* / % ++ --
  - $\rightarrow$  10 + 5 = 15
  - 4 3 = 1
  - ▶ 10 \* 3 = 30
  - 4 / 2 = 2
  - ▶ 15 ++ = 16 (this increments by 1)
  - ▶ 8 -- = 7 (this decrements by 1)
  - ▶ 8 % 5 = 3 (division remainder)

- Assignment operators
- Comparison operators
- Logical operators

# Assignment Operators ( =, +=, -=, /=, %=)

### Assignment operators

profit = income - expenses

```
▶ count = count + i \leftarrowSAME \rightarrow count += i
```

- ▶ count = count i  $\leftarrow$  SAME  $\rightarrow$  count -= i
- ▶ count = count / i ←SAME → count /= i
- ▶ count = count \* i ←SAME → count \*= i
- ▶ count = count % i ←SAME → count %= i

## Comparison Operators

## Logical Operators (Cont'd)

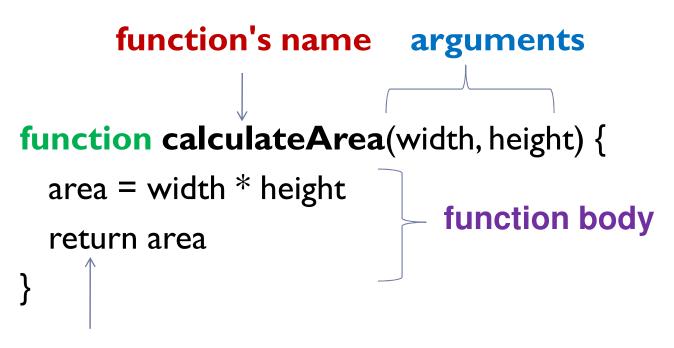
- ▶ && (AND Operator)
  - ▶ (3 < 2 && 3 > 1) // returns false
- ?? (OR Operator)
  - ▶ (3 < 2 ?? 3 > 1) //returns true
- ! (Not Operator)
  - ▶ ! (3 < 2) //returns true

## String Operator

- You can add text to strings using the + operator.
- For example:
  - firstName = "Bob"
  - lastName = "Stewart"
  - name = firstName + lastName

#### **Functions**

How to create a function in JavaScript?



Functions that returns a value <u>MUST</u> use a return statement.

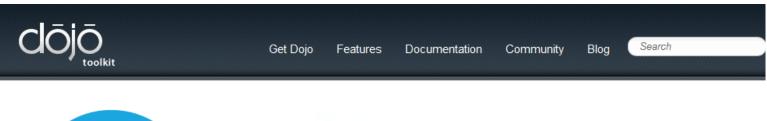
## Function (Cont'd)

Great! Now, we have created our function. But, how do we call it? How do we use it?

```
<form name="frmArea" action="">
Enter the width and height of your rectangle to calculate the size:<br/>
Width:<input type="text" name="txtWidth" size="5" /><br/>
Height:<input type="text" name="txtHeight" size="5" /><br/>
<input type="button" value="Calculate area"
    onclick="alert(calculateArea(document.frmArea.txt Width.value, document.frmArea.txtHeight.value))"
    />
</form>
```

## JS Framework: Dojo Toolkit

http://dojotoolkit.org/







#### Grids and Charts

Create enterprise grade apps with grids and charts that work across browsers and can handle any data thrown at it.



#### Powerful Base APIs

Dojo's powerful, lightweight core makes common tasks quicker and easier. Animate elements, manipulate the DOM, and query with easy CSS syntax, all without sacrificing performance.



#### Desktop, Mobile, Embedded

The simple Dojo APIs you know and love on every device and desktop. Enhanced with the latest HTML5 capabilities such as geolocation, touch events, and 3-D effects.

## Get Dojo!





## Cloud hosting via CDN

You can utilize the full Dojo Toolkit from the services by including a script tag in your page:

© Google CDN

Yandex CDN (Europe)

<script src="http://ajax.googleapis.com/ajax/libs/dojo/1.6/dojo/dojo.xd.js" type="text/javascript"></script>

<script src="http://ajax.googleapis.com/ajax/libs/dojo/I.6/dojo/dojo.xd.js" type="text/javascript"></script>

## Cool Examples with Dojo!!!

See Examples in course site

# Questions?