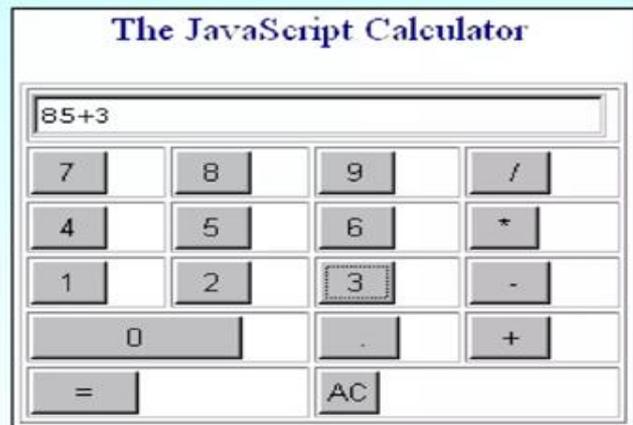# *Introduction to JavaScript*

Introduction

- What is it?
- How does it work?
- What is Java?
- Learning JavaScript
  - JavaScript Statements
  - JavaScript and HTML forms

What is JavaScript?

- Browsers have limited functionality
  - Text, images, tables, frames
- JavaScript allows for interactivity
- Browser/page manipulation
  - Reacting to user actions
- A type of programming language
  - Easy to learn
  - Developed by Netscape
  - Now a standard exists –
    `www.ecma-international.org/publications/`
    `standards/ECMA-262.HTM`

JavaScript Allows Interactivity

- Improve appearance
  - Especially graphics
  - Visual feedback
- Site navigation
- Perform calculations
- Validation of input
- Other technologies

The JavaScript Calculator

```
85+3
```

7	8	9	/
4	5	6	*
1	2	3	-
0	.	+
=	AC

javascript.internet.com

How Does It Work?

- **Embedded within HTML page**
  - View source
- **Executes on client**
  - Fast, no connection needed once loaded
- **Simple programming statements combined with HTML tags**
- **Interpreted (not compiled)**
  - No special tools required

What is Java?

- Totally different
- A full programming language
- Much harder!
- A compiled language
- Independent of the web
- Sometimes used together

Learning JavaScript

- Special syntax to learn
- Learn the basics and then use other people's (lots of free sites)
- Write it in a text editor, view results in browser
- You need to revise your HTML
- You need patience and good eyesight!

JavaScript Statements

```
<html>
<head><title>My Page</title></head>
<body>
<script language="JavaScript">

document.write('This is my first →
JavaScript Page');

</script>
</body>
</html>
```

Note the symbol for
line continuation

JavaScript Statements

```
<html>
<head><title>My Page</title></head>
<body>
<script language="JavaScript">

document.write('<h1>This is my first →
JavaScript Page</h1>');

</script>
</body>
</html>
```

HTML written
inside JavaScript

JavaScript Statements

```html
<html>
<head><title>My Page</title></head>
<body>
<p>
<a href="myfile.html">My Page</a>
<br />
<a href="myfile.html"
onMouseover="window.alert('Hello');">
My Page</A>
</p>
</body>
</html>
```

[JavaScript Application] ☒

⚠ Hello

[OK]

An Event

JavaScript written
inside HTML

Example Statements

```
<script language="JavaScript">
window.prompt('Enter your name:','');
</script>


<form>
<input type="button" Value="Press"
  onClick="window.alert('Hello');">
</form>
```

Another event

Note quotes: " and '

HTML Forms and JavaScript

- JavaScript is very good at processing user input in the web browser

- HTML `<form>` elements receive input

- Forms and form elements have unique names
  - Each unique element can be identified
  - Uses JavaScript Document Object Model (DOM)

Naming Form Elements in HTML


```
<form name="addressform">
Name:   <input name="yourname"><br />
Phone: <input name="phone"><br />
Email: <input name="email"><br />
</form>
```
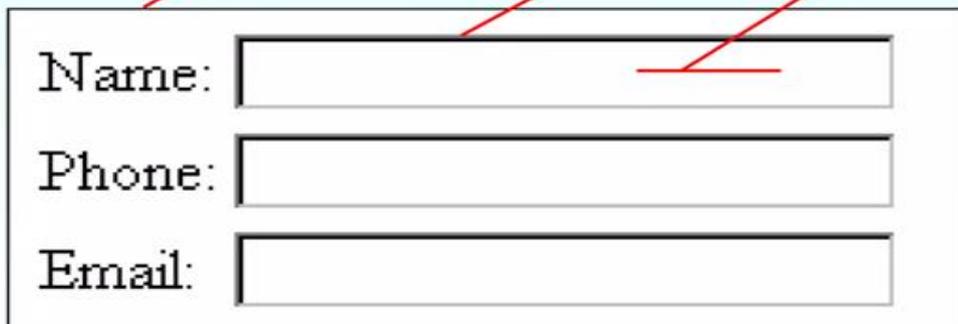
Forms and JavaScript

`document.`**`formname.elementname`**`.value`

Thus:

`document.`**`addressform.yourname`**`.value`
`document.addressform.phone.value`
`document.addressform.email.value`

Name:	
Phone:	
Email:	

Using Form Data

Personalising an alert box

Enter your name: [_____] [Go]

[JavaScript Application]

⚠ Hello Jane

[OK]

```
<form name="alertform">
Enter your name:
<input type="text" name="yourname">
<input type="button" value= "Go"
  onClick="window.alert('Hello ' + →
  document.alertform.yourname.value);">
</form>
```

Tips

- Check your statements are on one line
- Check your " and ' quotes match
- Take care with capitalisation
- Lay it out neatly - use tabs
- Remember → in the workbook denotes a continuing line
- Be patient