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Test Your Tech

JavaScript is:

A. The earliest known writing by Java Man.
B. Programming language for Web pages.
C. Instructions in the Starbucks bag on how to brew good coffee.

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Test Your Tech

JavaScript is:

A. The earliest known writing by Java Man.
B. Programming language for Web pages.
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Recovery

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Homework

- For today, you should have read
  - Chapter 22 in *Fluency*
  - Chapter 2 in *QuickStart*

  - For this week, you should also have read,
    - Chapters 20 and 21 in *Fluency*
    - Chapter 1 in *QuickStart*

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Screen Input and Output

The form of <form>

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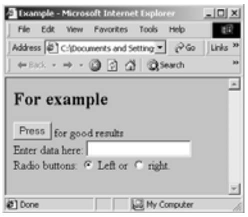
Manipulating Data

Last time, we saw JS put text (**4**) in the source file before finishing the page

- Now we see JS create buttons and windows, and manipulate data in the finished page


Example - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address C:\Documents and Setting
Go
Links
Back
Search
Done
My Computer

For example

Press for good results

Enter data here:

Radio buttons: ● Left or ○ right

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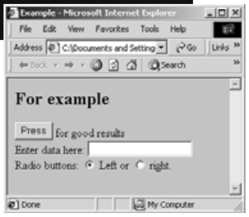
Forms

Input & Output in JS are given in forms

```
<form>
  <input type="button" value="Press"> for good results<br>
       …
</form>
```


Example - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address C:\Documents and Setting
Go
Links
Back
Search
Done
My Computer

For example

Press for good results

Enter data here:

Radio buttons: ● Left or ○ right.

- ∗ Inside <form> tags
- ∗ Notice
  - **type**
  - **value**
  - relationship to text

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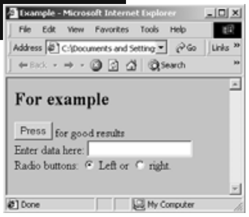
More Forms

```
<form>
       …
   Enter data here:
          <input type="text" name="x" size=20> <br>
       …
</form>
```


Example - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address C:\Documents and Setting
Go
Links
Back
Search
Done
My Computer

For example

Press for good results

Enter data here:

Radio buttons: ● Left or ○ right.

- ∗ Notice
  - type
  - name
  - size
  - relationship to text

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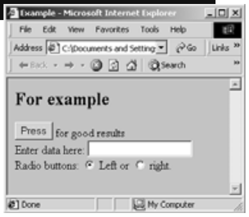
Radio Control

```
<form>
         …
  Radio buttons:  <input type="radio" name="y"> Left or
                  <input type="radio" name="y"> right.
</form>
```


Example - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address C:\Documents and Setting
Go
Links
Back
Search
Done
My Computer

For example

Press for good results

Enter data here:

Radio buttons: ● Left or ○ right.

- ∗ Notice
  - type
  - name (common)
  - relationship to text

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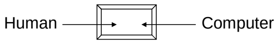
Input/Output

Windows are input or output based on your point of view …



- ∗ Programming uses computer's view
  - It's obvious that buttons are inputs
  - Windows are inputs, but if the computer puts information in them, they're outputs

Forms define the type of I/O and the processing

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Events Cause Processing

After drawing a page, browsers sit idle waiting for something to happen … when we give input, it cause *events*

- Processing the input is the task of an event handler
  - ∗ Event types
    - onClick
    - onChange
    - onMouseOver

In the <input …> tag an event handler gives the processing needed for the task using JavaScript

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Observe Actions

Asian Emoticons

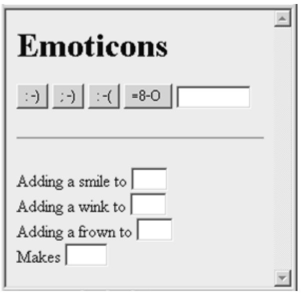
(^_^)	Laughing	(???)/	Joyful
(>_<)>	Troubled	(???;)	Surprised
(^_^;)	Troubled	(#^.^#)	Shy
(ToT)	Crying	(*´?`*)	Infatuation
m(_ _)m	Apologising	(??;)	Worried
(^^;)	Shy	(*^?^*)	Joyful
(???)	Grinning	(^?^)	Laughing

Rightside up

Emoticons = Emotional Icons

:-)	Smile or Happy	:-p	“Raspberry" or 'tongue in cheek’
:-(	Frown or Sad		
;-)	Winking	:-S	Confused
:-D	Laughter	:-/	Doubtful or confused
:-C	Very, very sad		
D-:	Annoyed, shocked or scared	:-|	Blank
		O:O_O	Surprised or shocked

Observe Actions



Emoticons

Adding a smile to

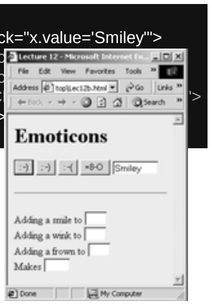
Adding a wink to

Adding a frown to

Makes

‘onClick’ Event for Buttons

```
<h1>Emoticons  </h1>
  <input type="button" value=" : -) " onClick="x.value='Smiley'">
  <input type="button" value=" ; -) " onClic
  <input type="button" value=" : -( " onClic
  <input type="button" value="=8-O " onC                                '>
  <input type="text" name=x  size=8><br>
     ...
```



Emoticons

Smiley

Adding a smile to

Adding a wink to

Adding a frown to

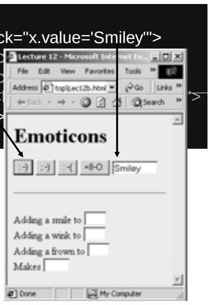
Makes

- Event handlers say what to do if event happens ... “put ‘Smiley’ in the output window”

Event handlers = mini programs

‘onClick’ for Buttons

```
<h1>Emoticons  </h1>
  <input type="button" value=" : -) " onClick="x.value='Smiley'">
  <input type="button" value=" ; -) " onClic
  <input type="button" value=" : -( " onClic
  <input type="button" value="=8-O " onCl                                ">
  <input type="text" name=x  size=8><br>
     ...
```



Emoticons

Smiley

Adding a smile to

Adding a wink to

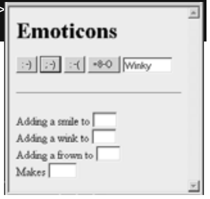
Adding a frown to

Makes

- Notice ...
  - ‘**`onClick`**’ event does the task: place ‘Smiley’ in the output window

x.value

```
<h1>Emoticons  </h1>
  <input type="button" value=" : -) " onClick="x.value='Smiley'">
  <input type="button" value=" ; -) " onClick="x.value='Winky'">
  <input type="button" value=" : -( " onClick="x.value='Frowny'">
  <input type="button" value="=8-O " onClick="x.value='Omagosh!'">
  <input type="text" name=x  size=8><br>
     ...
```



Emoticons

Winky

Adding a smile to

Adding a wink to

Adding a frown to

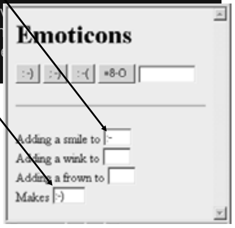
Makes

- Notice ...
  - the **`value`** of a text window is the contents of the window **`x.value`**

window name

‘onChange’ Event

```
<hr><br>
 Adding a smile to <input type="text" name="x2" size=2
         onChange="x5.value = x2.value + ')' "><br>
 Adding a wink to <input type="text" name="x3" size=2
         onChange="x5.value = ';' + x3.v
 Adding a frown to <input type="text" n
         onChange="x5.value = x4.value
 Makes <input type="text" name="x5"
```



Adding a smile to :-
Adding a wink to
Adding a frown to
Makes :-)

- Notice
  - names
  - + is concatenate

Name A Different Window

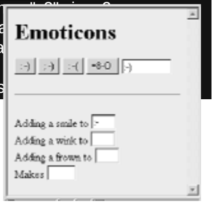
```
 …
 <input type="text" name=x  size=8><br><br>
   <hr><br>
 Adding a smile to <input type="text" name="x2" size=2
         onChange="x5.value = x2.value + ')' "><br>
 Adding a wink to <input type="text" name="x3" size=2
         onChange="x5.value = ';' + x3.value"><br>
 Adding a frown to <input type="text" name="x4" size=2
         onChange="x5.value = x4.value + '(' "><br>
 Makes <input type="text" name="x5"  size=3>
```

"x.value = x2.value + ')' "

Result

```
 …
 <input type="text" name=x  size=8><br><br>
   <hr><br>
 Adding a smile to <input type="text" name="x2" size=2
         onChange="x5.value = x2.value + ')' "><br>
 Adding a wink to <input type="text" nam
         onChange="x5.value = ';' + x3.va
 Adding a frown to <input type="text" na
         onChange="x5.value = x4.value
 Makes <input type="text" name="x5"  s
```

"x.value = x2.value + ')' "



:-)

Adding a smile to :-
Adding a wink to
Adding a frown to
Makes

Review from last lecture …

Conditional

Conditionals test if an expression is true or not

- General form …

if (<*Boolean expression*>)
    <*Then statement*>;

- For example

```
if (day == "Friday")
     evening_plan = "party";
```

If-Then-Else

Branch both ways with If-Then-Else

if (<*Boolean expression*>)
    <*Then statement*>;
else
    <*Else Statement*>;

- Example …

```
if ((year%4)== 0) {
       leapYear = true;
       febDays = febDays+1;
}
else
       leapYear = false;
```

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Study

- For Monday, read QuickStart to JavaScript, pages 108-113.
- Monday I'll introduce the next project.

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Study

- Next week's quiz
  - Review the questions at the end of these chapter:
    - *Fluency* chapters 20, 21, and 22
    - *QuickStart* chapters 1 and 2
- Expect lots of questions on JavaScript!

- JavaScript topics will include:
  - Variables
  - Values
  - Assignment statements
  - Conditionals
  - Functions
  - Curly brackets
  - Relationship to HTML

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Schedule Changes

- Monday and Tuesday:
  - Keep working on Lab 7
  - Due at your Wednesday or Thursday lab this week
- Deadline for next project is postponed