JAVASCRIPT TIPS
REMEMBER

JAVASCRIPT IS

VERY, VERY CASE SENSITIVE
RESERVED WORDS

• List by category

• Alphabetical list under resources
JAVASCRIPT CONSOLE

• Shows errors
• Lets you write messages and intermediate results

```javascript
console.log (whatever helps);
```
USING JSFIDDLE

• Validation
• Testing
• Cut and paste
• Add HTML and CSS if you are having problems
KEY CONCEPTS:
VARIABLES AND FUNCTIONS
VARIABLES

• A place to hold a value

• Mailbox: know where to pick up my mail; don’t know what’s in it

• How to define?

  var name;

  var name = initial-value;
FUNCTION: COLLECTION OF INSTRUCTIONS

HTML

```html
<head>
  <script src="function.js"></script>
</head>
<body>
  <button type="button" onclick="doot();">
  </button>
</body>
```

JAVASCRIPT (function.js)

```javascript
function doit () {
  alert("Hi!");
}
```
WHAT WE WANT TO DO
FORM WITH INPUT, BUTTON, OUTPUT
ADD DATA

HTML

JavaScript
PUSH BUTTON AND INPUT DATA SENT TO JAVASCRIPT
PARAMETERS

• Just a special type of variable
• Something that you hand to the function
• Q: Many users: how do you name?
  • A: Give it its OWN names to use locally
• Q: How do you match up?
  • A: By POSITION
FUNCTION WITH PARAMETERS

**HTML**

```html
<head>
  <script src="function.js"></script>
</head>
<body>
  <button type="button" onclick="doit(3,5);">
</body>
```

**JAVASCRIPT (function.js)**

```javascript
function doit (a,b) {
  var c = a*b);
  alert("product is "+c);
}
```
JAVASCRIPT USES THE DATA TO CREATE A NEW RESULT
AND MOVES IT TO THE OUTPUT LOCATION
RETURN VALUE

```
return (value);
```

- Want to get information BACK to HTML
- With a return, the function has a VALUE
- Can be used anywhere you can use a constant or variable
  - Alert
  - Assignment statement
- Can only change one thing with a return
FUNCTION WITH RETURN

**HTML**

```html
<head>
  <script src="function.js"></script>
</head>

<body>
  <button type="button" onclick="alert(doit(3,5));">button</button>
</body>
```

**JAVASCRIPT (function.js)**

```javascript
function doit (a,b) {
  var c = a*b;
  return(c);
}
```
CHANGING MORE THAN ONE THING

If you have two things that you want to change
  Can change them in the function
Usually do NOT return value

Can only use such a function in one place
DOING INTERESTING THINGS WITH JAVASCRIPT
ASSIGNMENT STATEMENTS

target = new-value;

• CHANGE the value of the target variable TO the new-value

• new-value can be a constant, a variable, or an expression

  x = 3;
  x = y;
  x = x + 5;
ARRAYS

• Collection of related information
• Easy way to choose between items
• var array = [ “A", "B", „F", "G" ];
• array[index]
• Example: user enters number, you return that month
RANDOM SELECTION

Choose between options randomly

```javascript
var n = Math.random();
```

[Math is a collection of functions]

If you use it twice, you get two different values.

Need to save it to reuse!
CONVERTING RANDOM TO INTEGER

• Often useful to convert that random number to an integer
  Index into array!
• 0->1 needs to be changed to 0->3 (or any other number)
• var biggerNumber = n*4; gets the range correct
• But only want integer:
  Math.floor returns the largest integer less than the value
• var biggerInteger = Math.floor(n*4);
PUTTING CONTENT WITHIN TAGS

General form: `context.element.attribute`

So far we have

```
form-name.input-id.value
form-name.img-id.src
```