Introduction to Programming
Class 26, 31 March 2017

SYNC

WARM UP

Create a function that *returns* the hypotenuse of a right triangle given the arguments of two sides.

```
var sideA = 3;
var sideB = 4;
var hypo = hypotenuse(sideA, sideB);
alert("Hypotenuse: " + hypo);

function hypotenuse(a, b) {
    //Your code here
}
```

If you complete this, move onto your next Unit 4 task.

Create a function that *returns* the hypotenuse of a right triangle given the arguments of two sides.

```
var sideA = 3;
var sideB = 4;
var hypo = hypotenuse(sideA, sideB);
alert("Hypotenuse: " + hypo);

function hypotenuse(a, b) {
    return Math.sqrt(a*a + b*b);
}
```

Review

Modify the following code, so that it uses textboxes and a button.

```html
<!doctype html>
<html>
<head>
    <title>Hypotenuse Finder</title>
</head>
<body>
    <h1>Pythag'o'rama</h1>
    <div id="formula">
        Enter side a:
        <input type="text" id="sideA">
        <br>
        Enter side b:
        <input type="text" id="sideB">
        <br>
        <input type="button"
            value="Find Hypotenuse"
            onclick="calculateHypo()">
        <br>
        <br>
        Hypotenuse:
        <input type="text" id="hypo">
    </div>
    <script src="hypo.js"></script>
</body>
</html>
```

```javascript
function calculateHypo() {
    // Your code here
}

function hypotenuse(a, b) {
    return Math.sqrt(a*a + b*b);
}
```

Review

Modify the following code, so that it uses textboxes and a button.

```html
<!doctype html>
<html>
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    <title>Hypotenuse Finder</title>
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        <br>
        Enter side b:
        <input type="text" id="sideB">
        <br>
        <input type="button"
            value="Find Hypotenuse"
            onclick="calculateHypo()">
        <br>
        <br>
        Hypotenuse:
        <input type="text" id="hypo">
    </div>
    <script src="hypo.js"></script>
</body>
</html>
```

```js
function calculateHypo() {
    var sideA = document.getElementById("sideA").value;
    var sideB = document.getElementById("sideB").value;
    sideA = parseFloat(sideA);
    sideB = parseFloat(sideB);

    var sideC = hypotenuse(sideA, sideB);

    document.getElementById("hypo").value = sideC;
}

function hypotenuse(a, b) {
    return Math.sqrt(a*a + b*b);
}
```

Extend

Cascading Style Sheets (CSS) allows you to make it pretty.

```html
<!doctype html>
<html>
<head>
    <title>Hypotenuse Finder</title>
    <link rel="stylesheet" type="text/css" href="hypo.css">
</head>
<body>
    <h1>Pythag'o'rama</h1>
    <div id="formula">
     <p>
        Enter side a:
        <input type="text" id="sideA">
        </p>
        <p>
        Enter side b:
        <input type="text" id="sideB">
        <input class="button" type="button"
          value="Find Hypotenuse"
          onclick="calculateHypo()">
        </p>
        <p>
        Hypotenuse:
        <input type="text" id="hypo">
        </p>
    </div>
     <script src="hypo.js"></script>
</body>
</html>
```

hypo.css

```css
body {
    font-family: Tahoma, sans-serif;
}

h1 {
    color: gray;
    font-size: 300%;
    text-decoration: underline;
}

div {
    border: 5px solid aqua;
    width: 300px;
}

p {
    font-family: Times New Roman;
    color: silver;
}

input[type="button"] {
    float: right;
    font-family: Times New Roman;
    background-color: olive;
    margin-top: 5px;
}
```

DO

Work on the next Unit 4 task for remainder of class.

ALERT

Unit 4 Assessment on Thursday, 20 April.