



WEEK 6 / LESSON 12:

REFACTOR

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LEARNING OBJECTIVES

- Define refactoring and describe why it is important
- Describe the concept of "this" as it applies within jQuery anonymous functions
- Experiment and apply different debugging techniques
- Apply switch blocks as a replacement for if / else if / else

TODAY'S SCHEDULE

- Refactoring Demos
- 'this' keyword Code Along
- Debugging Demos
- Meeting conditions
 - JS Switch Statement
 - JS Loops (for, while, do...while)
- Weather Application - Part 3 Lab

REFACTOR

Making code more efficient without changing functionality

RE-WRITING CODE

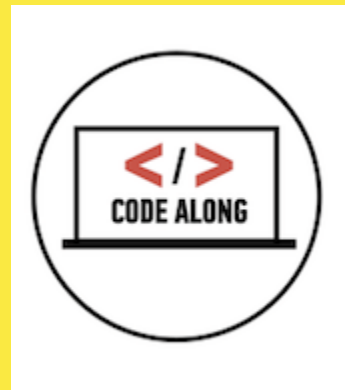
- To reduce or eliminate redundancy
- Make code easier to read
- Make code more maintainable
- Improve performance

CSS REFACTOR

- Remove inline styling
- Replace repeated styles with classes
- Rename classes/ids for readability
- Organize CSS
- Group by section
- Create classes for large CSS changes in JS
- Remove unnecessary css

JS REFACTOR

- Use functions
- Use variables
- Use arrays
- Combine jQuery selectors
- Combine jQuery property changes into objects
 - .css,.attr,etc
- Chain jQuery function calls



REFACTOR

'THIS' KEYWORD

jQuery: 'this' refers to the selected object

```
$('p').on('click',function() {  
    $(this).fadeOut(500);  
});
```



'THIS' REFACTOR

FAQ

Color Scheme Switcher

DEBUGGING

Why isn't this working?

DEBUGGING

Always start by defining the problem.

- "The image is not moving"
- "None of my code works"

DEBUGGING

This will tell you where to start your hunt

- Image not moving
 - find the code that makes the image move
- None of my code works
 - Syntax error, check console

DEBUGGING: LEVEL 1

To access debugging console:

PC: **CTRL + SHIFT + J**

Mac: **COMMAND + OPTION + J**

1. Check for errors (**red text**, aligned right) in console
2. Click on the error

The location may not be correct but is a good place to start (eg. unbalanced brackets or parentheses)

DEBUGGING: LEVEL 2

So no red errors but not getting the right answer?

Try `console.log`

```
var stringOfNames='';  
['Bob','Joe'].forEach(function(element) {  
    stringOfNames+=element+', '  
    console.log(stringOfNames);  
});
```

Use in multiple places to see what is executed

`Console.log()` variables

```
console.log('myVariable: ' + myVariable);
```

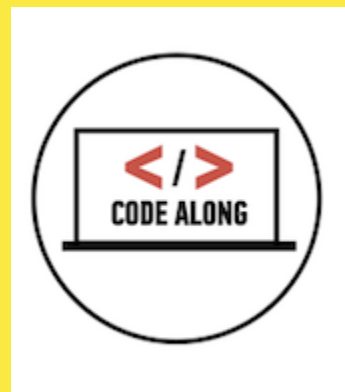
DEBUGGING: LEVEL 3

- Use the debugger in Chrome
- Set a breakpoint
- Run the code
- Step through the code until you get to the error
- Variable values display on the right
- You can switch to the console to run code or check value of a variable

DEBUGGING: LEVEL 4

Get help!

1. Try a google search
2. Be ready to clearly articulate the problem
(Write out what your problem is)
3. If nothing, ask a fellow coder



DEBUG

MEETING CONDITIONS

- The JS Switch Statement
- JS Loops:
 - For
 - While / Do...While

JS SWITCH STATEMENT

Perform different actions based on different conditions

Alternative to if / else if / else

```
switch(expression) {  
  case n:  
    code block  
    break;  
  case n:  
    code block  
    break;  
  default:  
    default code block  
}
```

See: [JS Switch](#) via W3Schools

JS LOOPS

```
for (start_point; expression; going_from_start_to_finish) {  
    // code to execute  
}  
  
var count = 10;  
for (var i = 0; i < count; i++) {  
    // code to execute  
}  
  
while (false) {  
    document.writeln("Can't touch this!");  
}  
  
do {  
    document.writeln("This code will run once!");  
} while (false);
```

[For, While, & Do...While Loops](#) via [kirupa.com](#)

[For, While/Do...While](#) via [W3Schools](#)



WEATHER APPLICATION - PART 3

Complete and Refactor

REVIEW: LEARNING OBJECTIVES

- Define refactoring and describe why it is important
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HOMEWORK

Review: Slides and Resources

Code:

Assignment 6

(City Widget Web App with drop-down city selection, created via an array, see Week 6 Assignment folder.

Assignment Resource links in README.pdf)

Final Project HTML / CSS / Pseudocode (Due Week 7)

RESOURCES

- [JS Debugging](#) via W3Schools
- [Chrome Dev Tools](#) via Google
- Further reading:
 - [JS Objects](#) via W3Schools
 - [jQuery each\(\)](#) via jQuery API

EXIT TICKETS