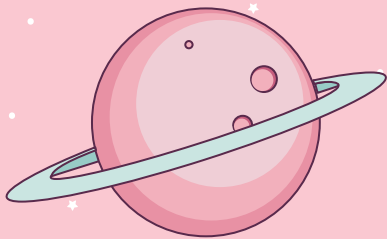


Exploring JavaScript

Week 2, Class 2: Jamie Pittman





Let's warm up!

week 2 > day 2 > exercises >
exploringJS_warm_up.js



Learning Objectives:

Exploring JavaScript

Access more built-in functionality of Numbers and Strings

Use Arrays to store lists of values

Automatically repeat code using loops



Store related values in Objects



Create and use Boolean values



JavaScript Collection Types

Objects: store a group of related values

Arrays: store a sequence of values

Object... Kind of like a car

What are some properties of a car?

What are some things a car can do?



Things to remember about keys:

- No periods
- Name them lowercase or camelCase

```
const jamieCar = {  
  make: "Honda",  
  model: "Civic",  
  year: 2014,  
  color: "black",  
  doors: 4  
}
```

Curly Braces

Objects

Key

Value

How do I retrieve values?

Two ways!

1. index syntax
2. dot syntax

```
const jamieCar = {  
  make: "Honda",  
  model: "Civic",  
  year: 2014,  
  color: "black",  
  doors: 4  
}
```

```
const make = jamieCar['make'];  
const model = jamieCar.model;
```

```
const jamieCar = {  
  make: "Honda",  
  model: "Civic",  
  year: 2014,  
  color: "black",  
  doors: 4  
}
```

```
//Change a value  
jamieCar.year = 2015;
```

```
//Add a key/value pair  
jamieCar.interior = "leather";
```

```
//Delete a key/value pair  
delete jamieCar.doors;
```

How do I change values?

Your turn!

week2 > day2>
exploringJS_objects.js

<10 minutes>



```
const digitalCraftsCrew = [
```

```
  "Jamie",
```

```
  "Dr. Vicki",
```

```
  "Jada",
```

```
  "Athena",
```

```
  "Dee",
```

```
  "Ernesto",
```

```
  "Robbie"
```

```
];
```

Square
brackets

Arrays

Comma
separated

One or more values/variables

How do I retrieve values?

Index

- Uses integers
- First index is always 0

```
digitalCraftsCrew[2];
```

```
const digitalCraftsCrew = [  
  "Jamie",  
  "Dr. Vicki",  
  "Jada",  
  "Athena",  
  "Dee",  
  "Ernesto",  
  "Robbie"  
];
```

index	value
0	"Jamie"
1	"Dr. Vicki"
2	"Jada"
3	"Athena"
4	"Dee"
5	"Ernesto"
6	"Robbie"

- **array.length** ⇒ returns length of an array
- **array.push(value)** ⇒ add items to the end of an array
- **array.pop()** ⇒ remove items from the end of the array
- **array.indexOf(value)** ⇒ get index of a value in the array

Array Properties and Methods

https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array

Booleans & Conditional Statements

```
if(condition) {  
    //Do something  
  
} else if(another condition) {  
    //Do something else  
  
} else {  
    //If none of the criteria meets the above  
    //Do something else...  
}
```

Here is a table of comparison operators:

<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to
!=	Not equal to
!==	(Strict) not equal to

Understanding Boolean Values

Use Conditional Logic with If Statements

Comparison with the Equality Operator

Comparison with the Strict Equality Operator

Practice comparing different values

Comparison with the Inequality Operator

Comparison with the Strict Inequality Operator

Comparison with the Greater Than Operator

Comparison with the Greater Than Or Equal To Operator

Comparison with the Less Than Operator

Comparison with the Less Than Or Equal To Operator

Comparisons with the Logical And Operator

Comparisons with the Logical Or Operator

Introducing Else Statements

Introducing Else If Statements

Logical Order in If Else Statements

Chaining If Else Statements

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Complete the following exercises on your own.

Class Updates/Announcements:

- 12/8: “Little Wins” with Kat
- 12/10: Career Talk with Angela Cassina

Both will be at the beginning of class (6:30pm EST)

Negating Booleans

```
function busy(todoArray) {  
  const howMany = todoArray.length;  
  const isBusy = howMany > 5;  
  if (!isBusy) {  
    console.log('Time to relax!');  
  } else {  
    console.log('You have plenty to do.');  }  
}
```


8 Falsey Values in JavaScript

The 8 "Falsy" values in JavaScript

The following values are equivalent to a false Boolean value:

<code>false</code>	Keyword for a false Boolean value
<code>0</code>	The number zero
<code>-0</code>	Negative zero
<code>0n</code>	The BigInt literal for zero
<code>""</code>	An empty string
<code>null</code>	Object that represents an invalid value
<code>undefined</code>	Keyword indicating that no value was assigned or returned
<code>NaN</code>	"Not-A-Number" - the result of an invalid attempt to create a numerical value

All other values are treated as a true Boolean value.

Types of Loops

while

for loops



Loops

Loops give programmers a way to run a code block repeatedly.

“control variable”

while loops

Specify the while
condition using the
control variable

```
let n = 1;
```

```
while(n <= 5){  
  console.log(n);  
  n = n + 1;  
}
```

Increase the control
variable to get closer
to ending the loop

```
// Instead of...
```

```
// n = n + 1
```

```
// You can use...
```

```
n += 1; // addition assignment operator
```

```
n++; // increment operator
```

```
// Instead of...
```

```
// n = n - 1
```

```
// You can use...
```

```
n--; // decrement operator
```

Increment and Decrement Operators

“control variable”

for loops

```
for(let n = 1; n <= 5; n++) {  
  console.log(n)  
}
```

Specify the while
condition using the
control variable

Increase the control
variable to get closer
to ending the loop

Iterate with JavaScript While Loops

Iterate with JavaScript For Loops

Iterate Odd Numbers With a For Loop

Count Backwards With a For Loop

Iterate Through an Array with a For Loop

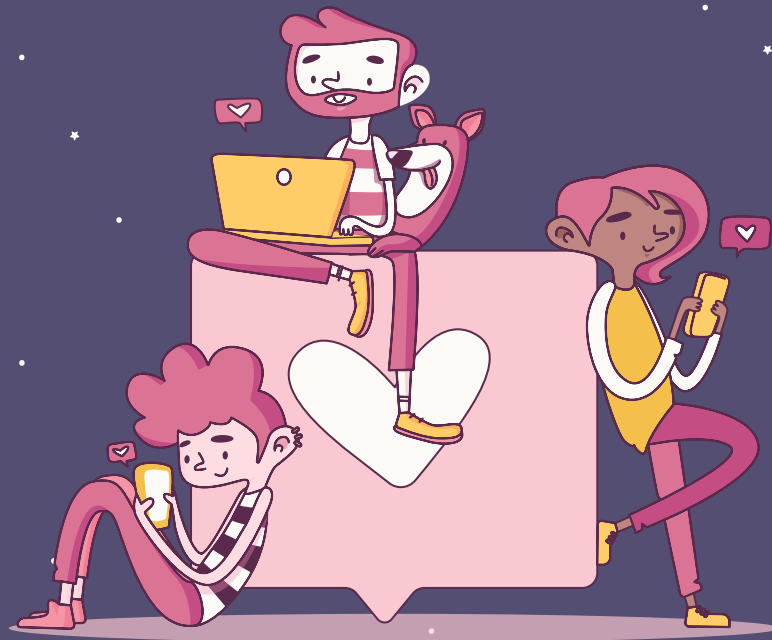
Nesting For Loops

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Complete the
following exercises
on your own.

Solving Problems with Code

Week 2, Class 2: Jamie Pittman



Learning Objectives:

Solving Problems with Code

Use Objects and Arrays to solve common programming problems

Use loops to accumulate a String or Number value

Search for values in an Array

Count number of occurrences in an Array



Solving Problems with Code

Building a string with a loop

Finding a substring

Counting specific items in an
array

in an Object

Summing arrays

Finding the index of an array
item



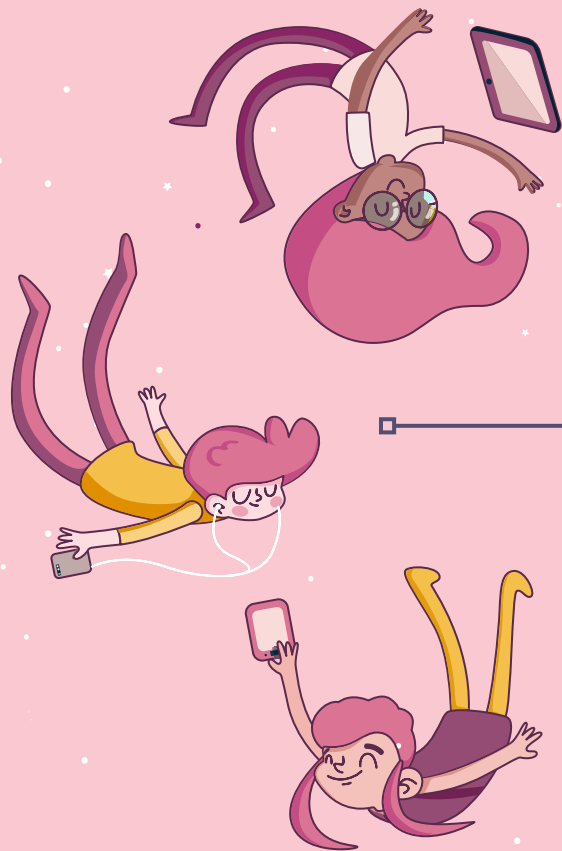
10:00

Pseudocode



Solving Problems with Code Partner Activity

`solvingProblemsWithCode.js`



Reading

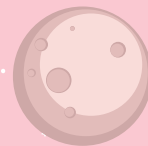
Read Callbacks and Anonymous Functions

Practice

JS 101 Exercises in The Learning Portal

Practice Some More

freeCodeCamp: Basic JavaScript



Homework

Ask yourself



What did you
learn to do today?



What surprised
you?



How will you use
what you
learned?