MAKE SCHOOL

JavaScript Syntax

WEB 1.0

Agenda

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- Learning Outcomes
- Warm-Up
- Review: What is JS?
- Using JS & Activity
- **BREAK**
- JS Syntax
- Lab Time

Learning Outcomes

By the end of today, you should be able to...

1.

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Warm-Up

Drawing Game (5 minutes)

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Grab a piece of paper and a pen!

Draw 5 squiggles on your paper.

You will have a limited amount of time to turn each squiggle into an animal.

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What is JavaScript?

What is JS?

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JS is the most ubiquitous programming language in the world, and is the language of the Web.

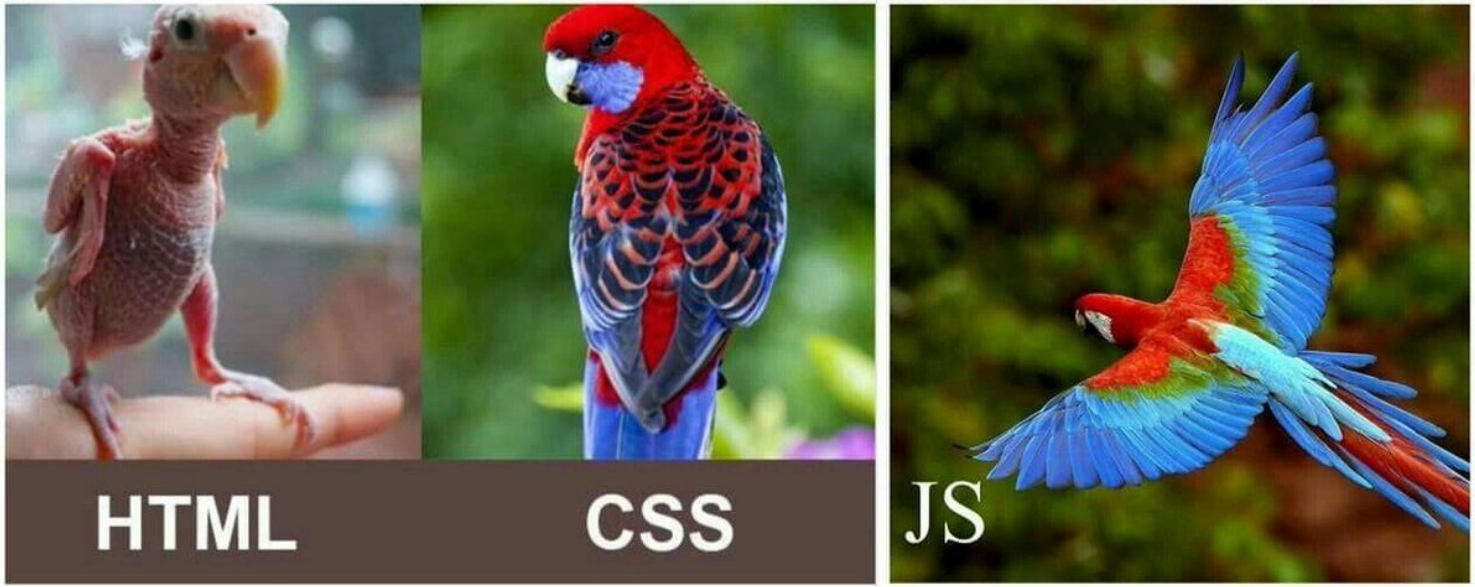
> “Any application that can be written in JavaScript, will eventually be written in JavaScript.”

- **Jeff Atwood** (co-founder of Stackoverflow)

https://medium.com/@jayaprabhakar/rethinking-atwoods-law-64a894b54aa4

What is JS?

We can only get so far with HTML and CSS. We need JavaScript to take us from static to dynamic.



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Using JS

Using JS

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JavaScript, as a language, has all the same features of Python:

- Variables
- Functions
- If statements
- For loops
- Lists, dictionaries
- And more

These features just use different **syntax**.

Using JS

What does this code do?

```
function multiply(number1, number2) {
   return number1 * number2
}

console.log(multiply(6, 7))
```

Click here to find out!

Using JS

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What does this code do?

```
let name = 'Joe'
// ...
if (name == 'Jude') {
   console.log(`Hey ${name}, don't make it bad!`)
} else {
   console.log(`Hey ${name}!`)
}
```

Click here to find out!

Using JS

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What does this code do?

```
for (let i = 1; i <= 10; i++) {
    console.log(`We're counting to 10! Currently on ${i}.`)
}
```

Click here to find out!

Using JS

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What does this code do?

```
shopping_list = [
    'Peanut Butter',
    'Melons',
    'Cat Food'
]

for (let i = 0; i < shopping_list.length; i++) {
    console.log(`Remember to get ${shopping_list[i]}!`)
}
```

Click here to find out!

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Activity

Activity (30 minutes)

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With a partner, complete the Repl.It JavaScript Challenges.

Make sure to practice Pair Programming, and switch partners after each exercise.

You can turn in your work (this will help me to see who is finished) but it won't be graded.

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Break - 10 min

“Take a 10 minute break and wrap a tag around everything you see.”

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JS Syntax

Variables

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In JS, you can declare a variable in 2 different ways:

```
let name = 'Hello' // can change

const pi = 3.14 // cannot change
```

`let` declares a variable whose value can be changed later.

`const` declares a variable whose value cannot be changed.

You may also see variables declared with `var`, but its use is discouraged.

Variable Scope

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`const` and `let` variables both have **block scope**: that means that they are accessible only in the block where they are declared.

```
let number = 10
if (number / 5 == 2) {
   let result = 'yes!'
}
console.log(result)
```

```
>>> ReferenceError: result is not
defined
```

Functions

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We can define a function like:

```
function calculateArea(length, width) {
   const area = length * width
   return area
}
```

And call it like:

```
const area = calculateArea(10, 3) // 30
```

If/Else

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We can write an if statement like:

```
if (area > 50) {
   console.log('More than 50')
} else {
   console.log('Less than 50')
}
```

Keep in mind that whitespace (tabs) doesn't have any semantic meaning in JS.

So we need to use `{` and `}` to signify the beginning/end of a block.

For Loop

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We can write a for loop like:

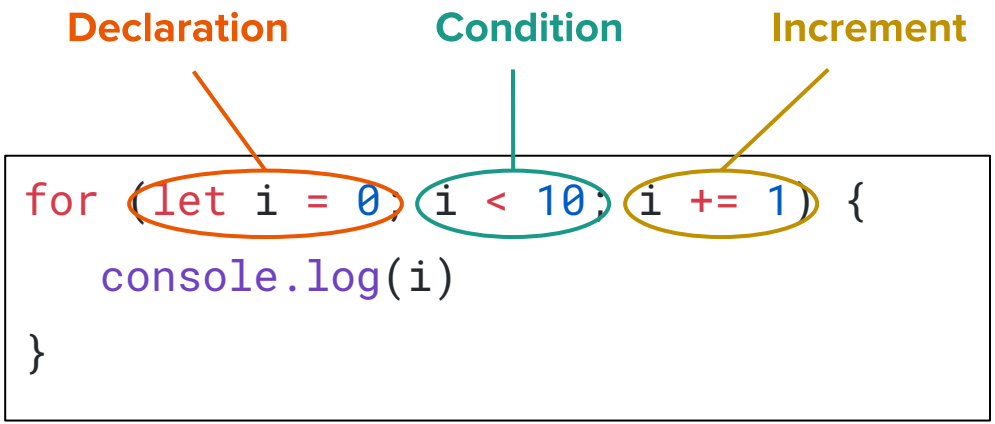
```
for (let i = 0; i < 10; i += 1) {
    console.log(i)
}
```

We are **declaring** a new variable called `i` that will only exist within the for loop.

Its value will go from 0 to 9.

For Loop

Let's break this one down.



Declare `i` to be 0; keep going **while** `i` < 10; **increment** `i` by 1

Activity

Without running it, see if you can guess what this code will print.

Click here to check your work!

```
function print_name_and_junk(name) {
    let loopy = 0
    for (let i = 1; i < 10; i += 1) {
        loopy *= i
    }
    console.log(name)
    console.log(loopy)
}
print_name_and_junk("Ian")

function print_name(name) {
    console.log(name)
}
print_name("Dan")

console.log(name)
```

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Lab Time

Homework

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This week's assignments:

- Mood Shop Tutorial - Due next Tuesday

Lab Rules

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Stay in the main Zoom room if you'd like to stay for more Q&A, homework help, etc.

Go to your individual breakout room if you'd prefer to work with a partner or have quiet time!