

JS

KICKSTARTER: JAVASCRIPT

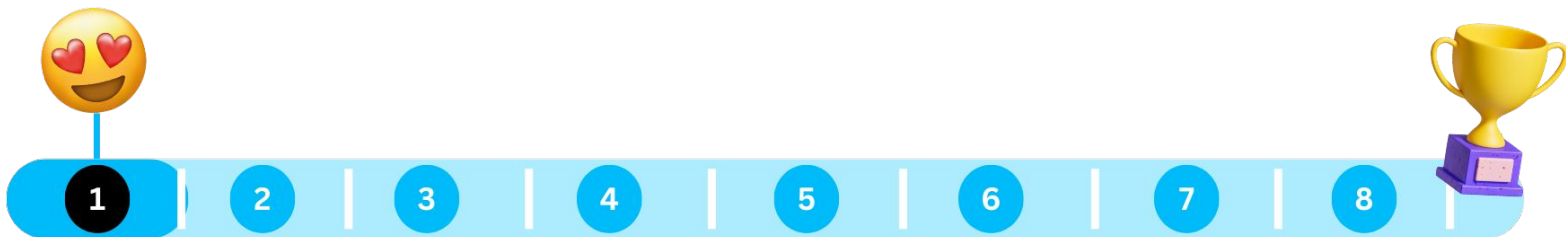
Used for for creating dynamic and
interactive web applications





YOUR JAVASCRIPT JOURNEY

INTRODUCTION TO JAVASCRIPT



-
- | | | | | | |
|---|--------------------------|---|----------------------|---|---|
| 1 | <i>Hello world!</i> | 4 | <i>DOM part one</i> | 7 | <i>Projects & presenting skills</i> |
| 2 | <i>Making decisions</i> | 5 | <i>DOM part two</i> | 8 | <i>Project presentations</i> |
| 3 | <i>Working with data</i> | 6 | <i>Project intro</i> | | |



LESSON ONE: **INTRODUCTION TO JAVASCRIPT**

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LESSON ONE: INTRO TO JAVASCRIPT

SESSION OVERVIEW

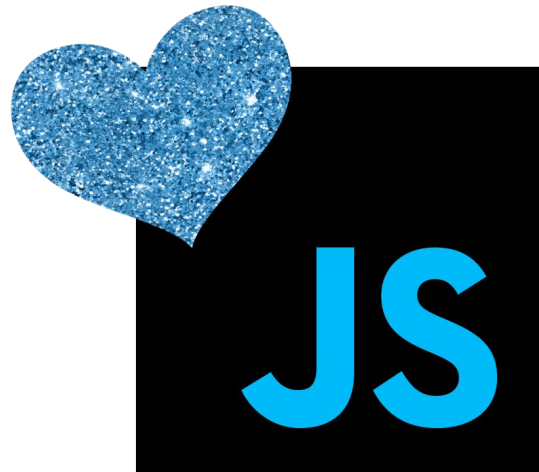
- + Strings & Output
- + Constants & Debugging
- + Joining Strings
- + Data Types
- + Numbers & Input
- + Recap



WE LOVE JAVASCRIPT

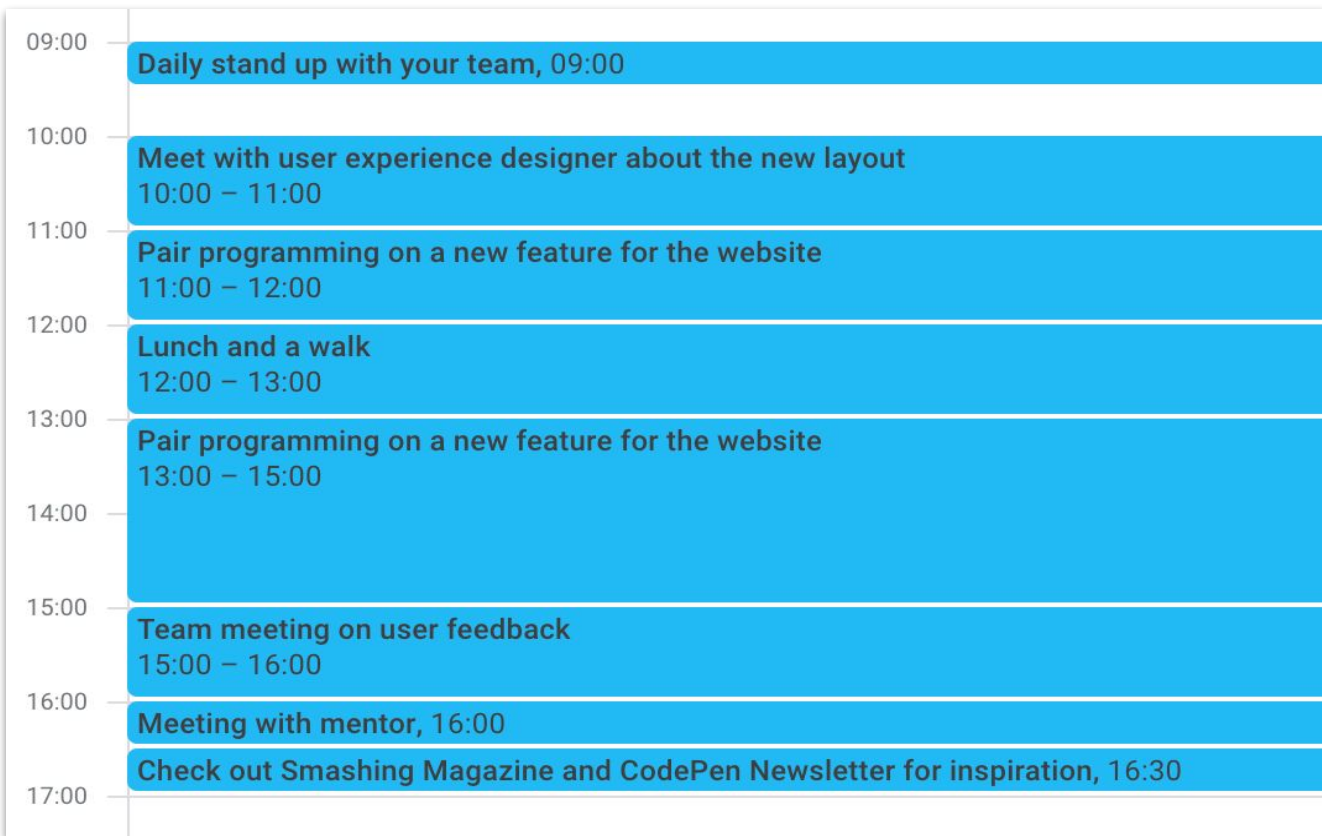
Javascript is known as **the language of the web**. It's one of the most powerful languages in the world.

- A very popular programming language
- Used to make websites interactive
- Lots of job opportunities
- Super fun to work with!
- JS = JavaScript
- JavaScript is not Java





DAY IN THE LIFE OF A JAVASCRIPT DEVELOPER





TOPIC 1: STRINGS & OUTPUTS

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TOPIC OVERVIEW // STRINGS & OUTPUTS

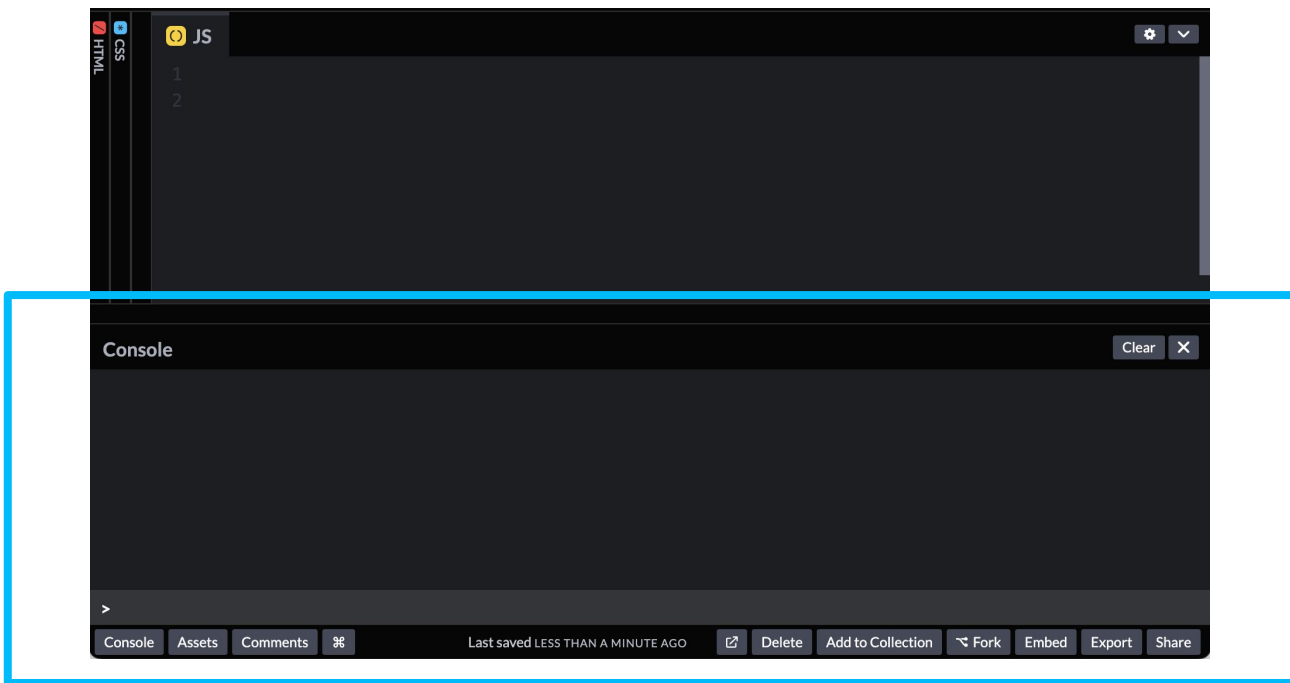
1. What is the console?
2. What is `console.log()`?
3. What is a string?
4. What are comments and why do we use them?
5. What is debugging?
6. How can I use error messages to help me debug?



WHAT IS THE CONSOLE?

LEARNING SESSION

Where we see the output of our code.



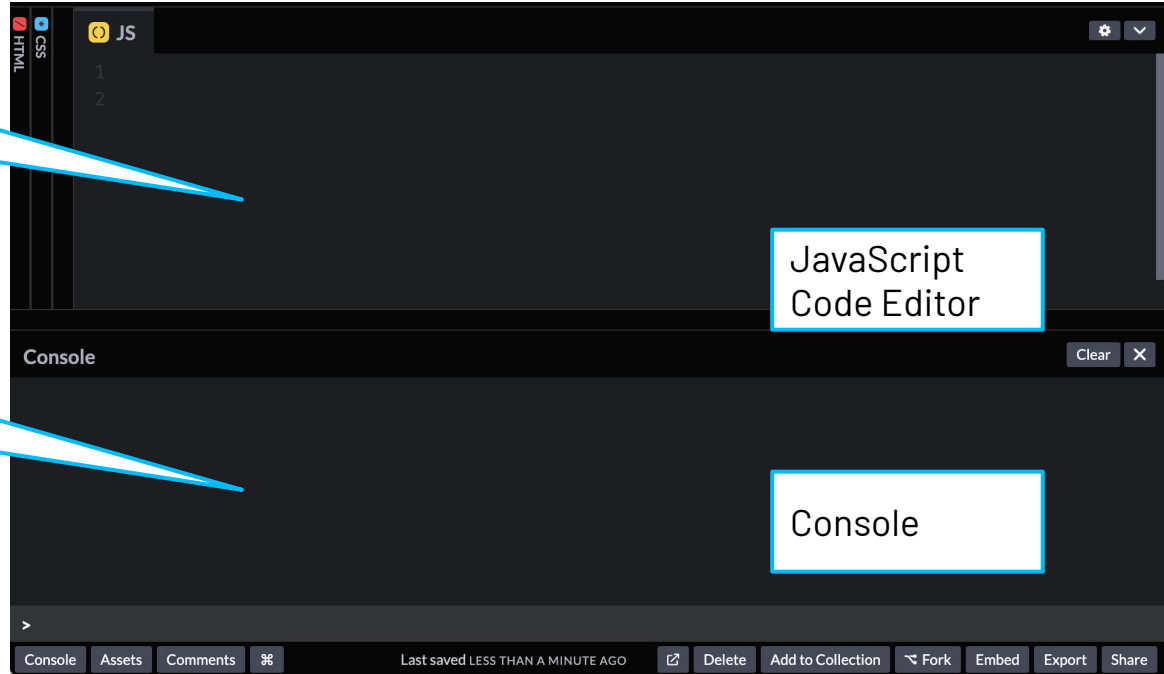


TEXT OUTPUT

LEARNING SESSION

We want to write
code here ...

... to output text
here





CONSOLE.LOG

LEARNING SESSION

The command we use to print a section of our code to the console.

```
JS
1
2 // Output a greeting to the console
3 console.log("Hello 🙋")
```

Console

```
"Hello 🙋"
```

>

Console Assets Comments % Last saved 1 MINUTE AGO Delete Add to Collection Fork Embed Export Share



STRINGS

LEARNING SESSION

The name we give to text / textual data. You can identify a string through the use of quotation marks.



JS

1

2

3

// Output a greeting to the console

console.log("Hello 🖐️")



COMMENTS

LEARNING SESSION

Notes we can leave for ourselves throughout the code; they don't affect the code itself.



JS

1

2

3

```
// Output a greeting to the console
```

```
console.log("Hello 🙋")
```



TOPIC 2: DEBUGGING AND CONSTANTS

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TOPIC OVERVIEW // CONSTANTS

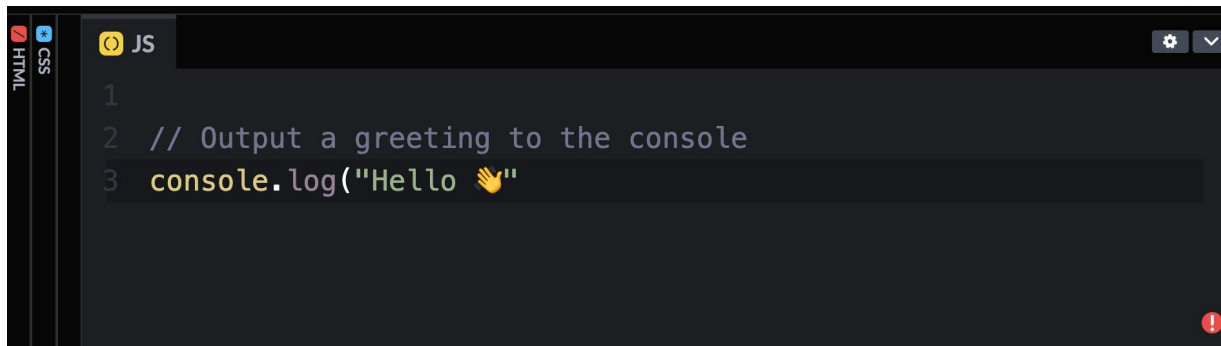
1. What are constants?
2. Constants Vs. Strings
3. Declaring constants
4. Using constants



WHAT IS DEBUGGING?

LEARNING SESSION

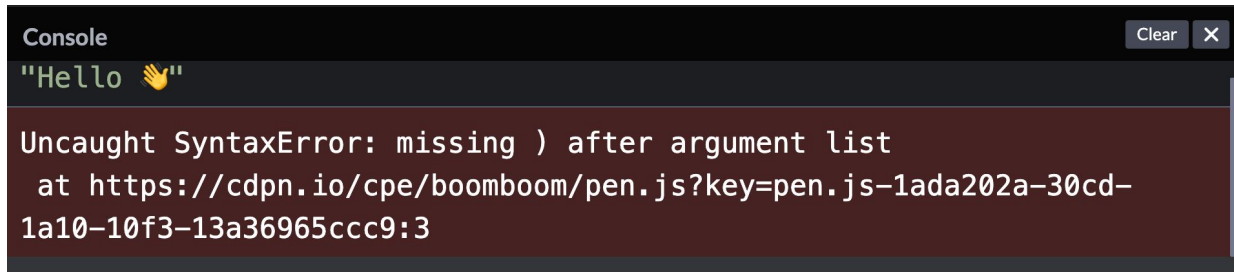
The process for fixing errors in code.



A screenshot of a code editor interface. On the left, there are tabs for 'HTML', 'CSS', and 'JS'. The 'JS' tab is active. The code in the editor is as follows:

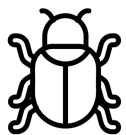
```
1  
2 // Output a greeting to the console  
3 console.log("Hello 🙌")
```

A red exclamation mark icon in the bottom right corner of the editor indicates an error.



A screenshot of a browser console window. The title bar says 'Console' and there are 'Clear' and 'X' buttons. The output shows the string 'Hello 🙌' followed by an error message:

```
Uncaught SyntaxError: missing ) after argument list  
at https://cdpn.io/cpe/boomboom/pen.js?key=pen.js-1ada202a-30cd-1a10-10f3-13a36965cccc9:3
```

DEBUGGING

LEARNING SESSION: WE MAKE MISTAKES! WE DEBUG THEM!

Can you spot the error we've made?

```
1
2 // Output a greeting to the console
3 console.log("Hello 🙌")
```

Console

```
"Hello 🙌"
```

Uncaught SyntaxError: missing) after argument list
at https://cdpn.io/cpe/boomboom/pen.js?key=pen.js-1ada202a-30cd-1a10-10f3-13a36965ccc9:3

>

Console Assets Comments % Last saved APRIL 28, 2023 - 1:36:47 PM Delete Add to Collection Fork Embed Export Share



CONSTANTS

LEARNING SESSION: GIVING REUSABLE DATA A NAME

Constants are kind of variable - a way to give a name to data that we want to label to reuse

- + Imagine the "Hello" greeting message was really long - your `console.log()` code would get hard to read
- + Wouldn't it be nice if we could just say `console.log(greeting)`
- + The meaning of your code would be much clearer.



CONSTANTS VS STRINGS

LEARNING SESSION: DEBUGGING

Can you spot the error we've made?

```
1 const message = "We got this"  
2 console.log("message")
```

We wanted to output
"We got this"

Console

"message"



DECLARING CONSTANTS

LEARNING SESSION

Constants are kind of variable - a way to give a name to data that we want to label to reuse

Const is the keyword used to declare a constant. You can only assign a value once.



JS

```
1 // Declaring our constants  
2 const greeting = "Hello"  
3 const emoji = "👋"
```

= is the
assignment
operator



USING CONSTANTS

LEARNING SESSION

After being declared, constants can then be used where needed.

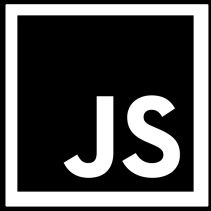
```
JS
1 // Declaring our constants
2 const greeting = "Hello"
3 const emoji = "👋"
4
5 // Output our constants into the console
6 console.log(greeting)
7 console.log(emoji)
```

Console

"Hello"

"👋"

The logged output is then the **value** of the variable



TOPIC 3: JOINING STRINGS - CONCATENATION AND INTERPOLATION

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TOPIC OVERVIEW // CONCATENATION

1. What is concatenation?
2. What is interpolation?



CONCATENATION

LEARNING SESSION: JOINING STRINGS TOGETHER

Concatenation is used to join together two or more strings of text to create a longer string of text.

- + What if we want to print more than one thing to the console?
- + We can join strings together using **concatenation**
- + We can combine text strings "Hello" and variable containing strings



JOINING STRINGS

LEARNING SESSION: CONCATENATION

Concatenation

uses **the + sign** to join string values together

```
JS
1 // Set up variables
2 const greeting = "Hello"
3 const emoji = "👋"
4
5 // Concatenate to create a full message
6 const message = emoji + " " + greeting + " " + emoji
7
8 // Show output in the console
9 console.log(message)
10
```

Console

```
"👋 Hello 👋"
```

As you can see, we get the expected output from the variables.



INTERPOLATION

LEARNING SESSION: JOINING STRINGS TOGETHER

Interpolation helps you combine text and variables more smoothly

- + Concatenation can get a bit messy when you want to combine text and multiple variables - you need lots of quotes (" ")
- + It's tricky to include some punctuation
- + Sometimes you want to create longer multi-line strings
- + **Interpolation** solves this



JOINING STRINGS

LEARNING SESSION: INTERPOLATION

Interpolation can be recognised by **the backticks `** and **the \$ sign** followed by variable name in **curly brackets {}**

The output is the same as when we used concatenation

```
JS
1 // Set up variables
2 const greeting = "Hello"
3 const emoji = "👋"
4
5 // Interpolation to create a full message
6 const message = `${emoji} ${greeting} ${emoji}`
7
8 // Show output in the console
9 console.log(message)
10
```

Console

👋 Hello 👋



TOPIC 4: DATA TYPES

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TOPIC OVERVIEW // DATA TYPES

1. What are data types?
2. What are strings?
3. What are numbers?
4. What are operators?



DATA TYPES

LEARNING SESSION

There are different data types in Javascript. The types can be divided into two categories; primitive and reference types.

E.g.

Strings e.g "Hello"

Strings are used to store text, including emoji 🙌

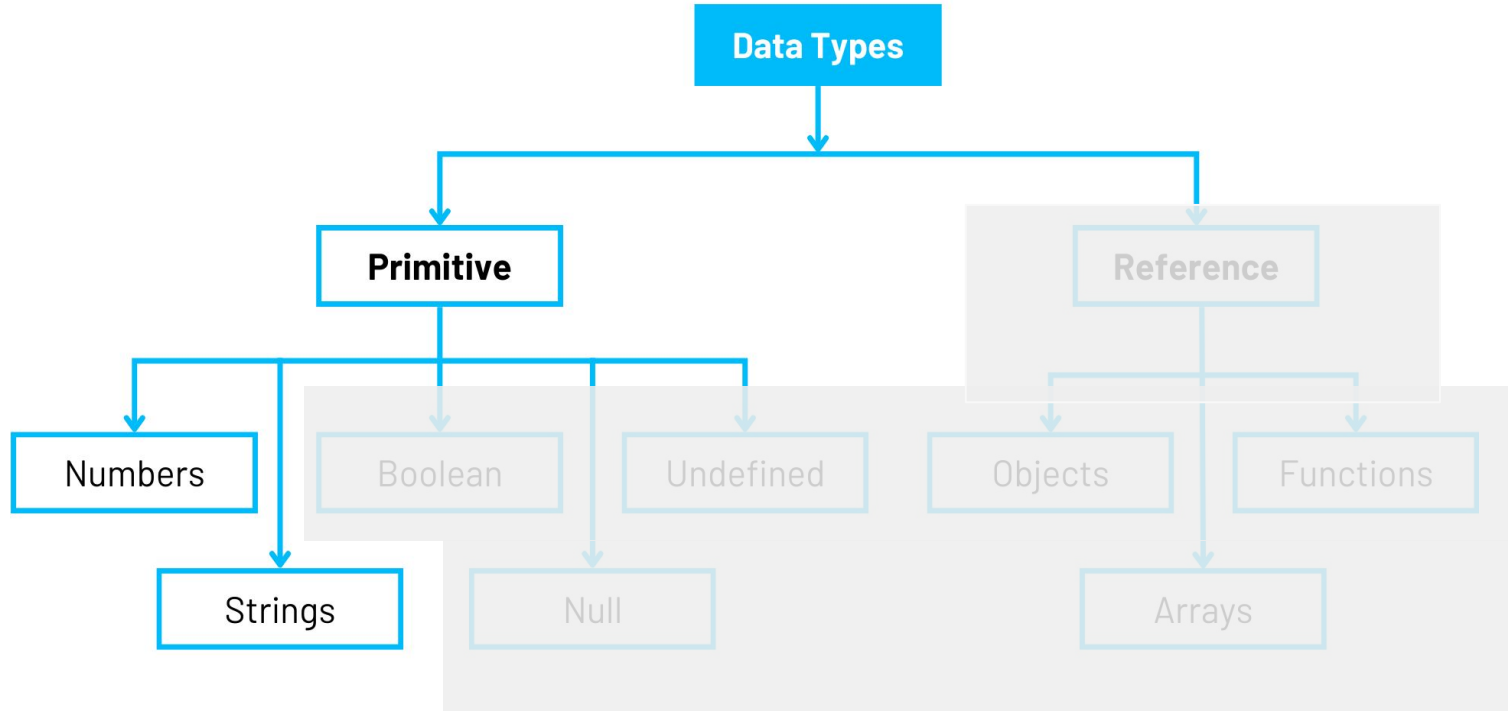
Numbers is another datatype in JavaScript

-These are both examples of primitive data types.



DATA TYPES

LEARNING SESSION





TOPIC 5: NUMBERS & INPUTS

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TOPIC OVERVIEW // NUMBERS & INPUTS

1. What are prompts?
2. How to do math operations?



PROMPTS

LEARNING SESSION: USER INPUT

A method used to display information to prompt the user to input text

You can
add some
guidance
here

An embedded page at cdpn.io says

What is your name?

Radia Perlman|

Cancel

OK

The user
types
some
input here



PROMPTS

LEARNING SESSION: USER INPUT

The screenshot shows a web browser window with a dark theme. The address bar displays "Exchange rate" and "Tracy Gardner". A modal dialog box is open in the center, titled "An embedded page at cdpn.io says", with the text "Enter an amount in GBP" and a text input field containing the value "10". The dialog has "Cancel" and "OK" buttons. In the background, a code editor is visible with a sidebar showing "HTML", "CSS", and "JS" tabs. The JS tab is active, showing the following code:

```
1  
2  
3 const gbp = prompt("Enter an amount in GBP", 10)  
4 const rate = 1.5  
5 const result = gbp * rate  
6  
7 console.log(`That's ${result} future coins 🌐`)
```

A speech bubble points to the number "10" in the code, containing the text "Default value".



MATH OPERATIONS

LEARNING SESSION

We can use **maths operators** to do **calculations**.

Addition	+	$1 + 0.5$	
Subtraction	-	55	
Multiply	*	30	
Divide	/	1.5	
Exponent	**	8	To the power
Modulo	%	2	Remainder



JOIN US FOR OUR LIVE LAB SESSIONS

- ★ **Remember to complete the quizzes for each topic this week to help build knowledge and understanding!**
- ★ **Live Lab sessions:**
 - Elevate your learning experience by joining us in the live lab session.
 - You'll get to put into practice what you have learned by completing exercises and working with your fellow students and instructors!
 - You'll also have the chance to be put in a group of students to support each other through the class and work together on your final project!
 - You can communicate through LearnDash and look out for the details of the live lab session taking place this week