Code

Nation

Variables

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Learning Objectives

- To understand how variable works in JavaScript
- To understand and use operators to store values and do calculations
- To use camelCase when naming variables
- To understand how to access data in variables

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First thing's first

All Around the World

Display the 8th character in upper case on the console

First thing's first

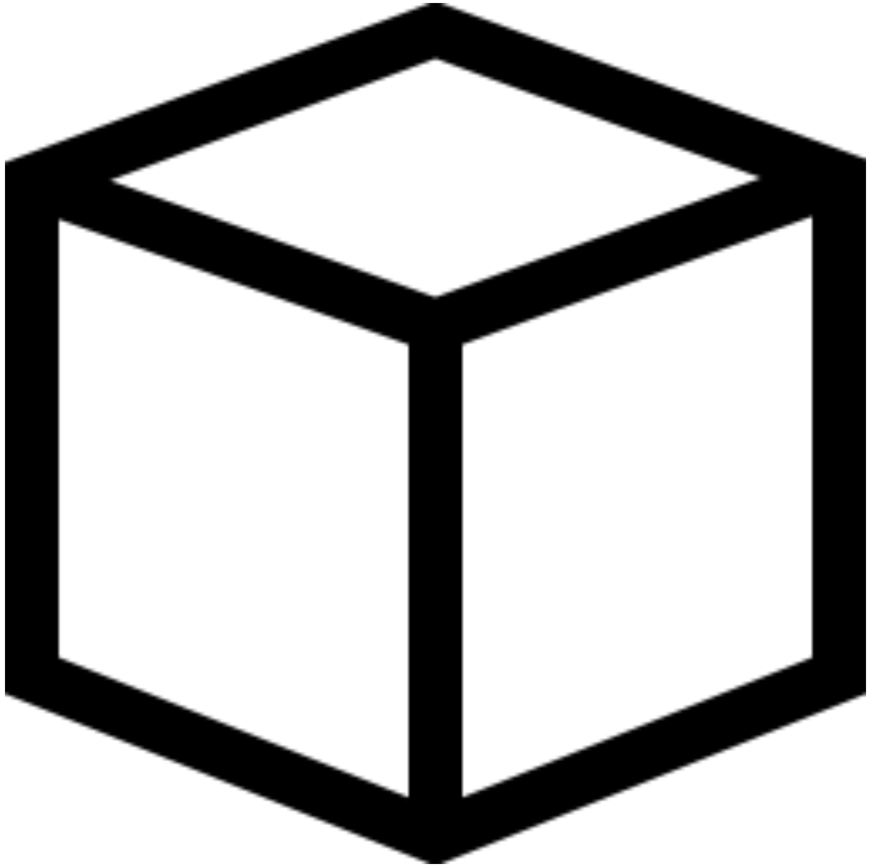
```
console.log("All Around the
world".toUpperCase().charAt(7));
```

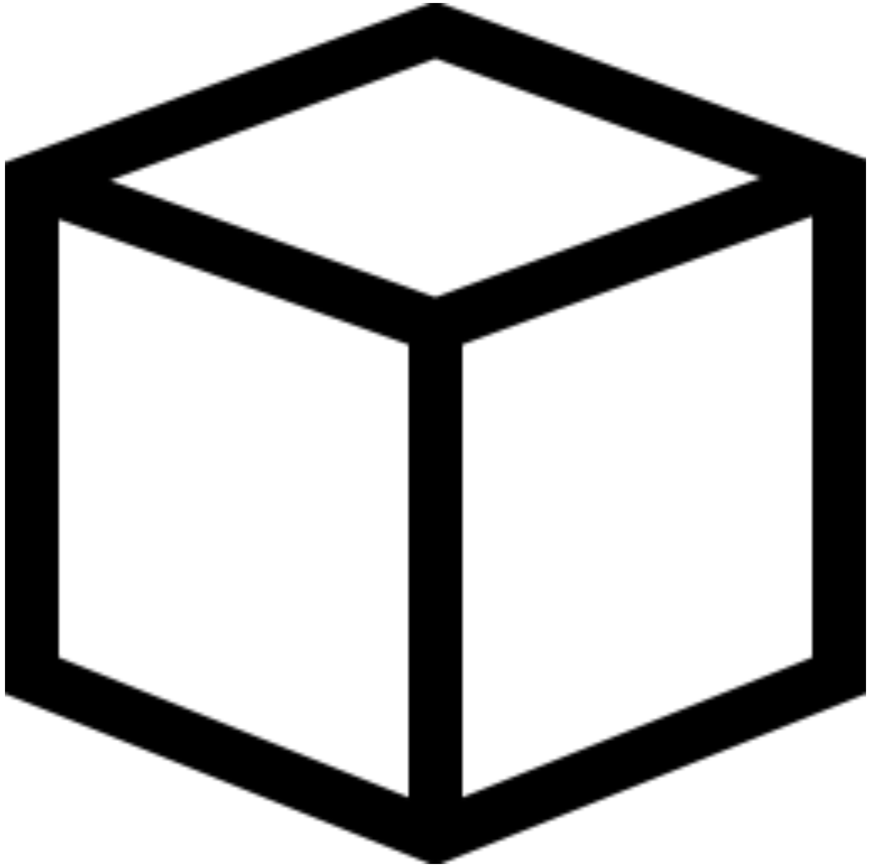
Things are getting interesting

Introducing

Variables

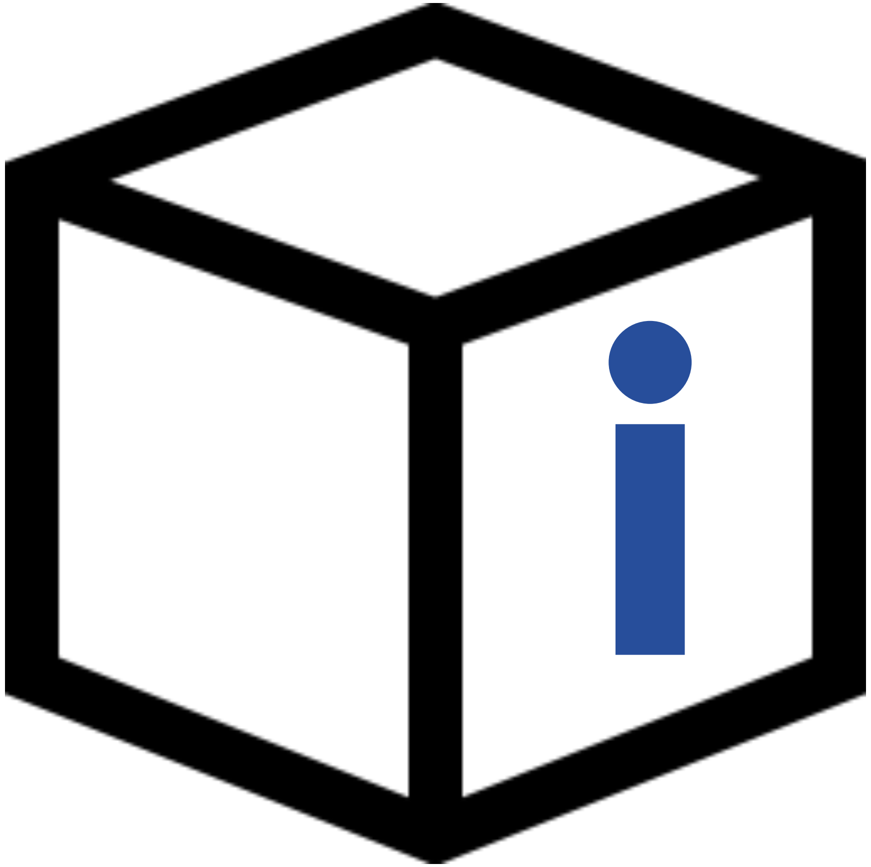
They’re like boxes.





We store items in boxes to retrieve later

Different items can be stored in the box at different times



We store items in boxes to retrieve later

Different items can be stored in the box at different times

In code, we give variables names so we can access things inside them. Exactly like saying “get me that thing from the **blue** box over there”

Imagine a cash machine

WITHDRAW 10_POUNDS
FROM 82929201

should be

WITHDRAW AMOUNT
FROM ACCOUNTNUM

We will be able to reuse code

So variables...

1) allow us to store data inside them

2) access them via a name

3) then place new data in them whenever we want

We don’t need to tell JavaScript what kind of data will be stored in a variable

Because it's a "loosely typed" language

So if I want to store my name in a variable, what kind of data type would that be?

A string.

You can declare variables using let, const and var

Let my favourite drink get stored

Create variable

Create a constant value that won't change

```
let i = 10;
```

Create a variable called i which holds values that **can** be changed whenever the code is running and store a value of 10 in it

```
const i = 10;
```

Create a variable called i which holds values that **cannot** be changed and store a value of 10 in it. Constant means to constant value and when something is constant, it doesn't change

```
var i = 10;
```

Create a variable called i which holds values that can be changed whenever the code is running and store a value of 10 in it

!

var vs let

let is more common these days, var is classic

AMOUNT = 500

```
let amount = 500;
```

ACCOUNTNUM = 87654321

```
let accountNum = 87654321;
```

What data types?

Boolean

String

Number

Null

Undefined

String : for representing text

Number : for representing numbers (decimal and integers)

Boolean : for true and false

Null : for nothing

Undefined : for when a data type isn’t determined

Symbol : This data type is used as the key for an object property when the property is intended to be private, for the internal use of a class or an object type

Time for sum maths

=

*=

+=

/=

-=

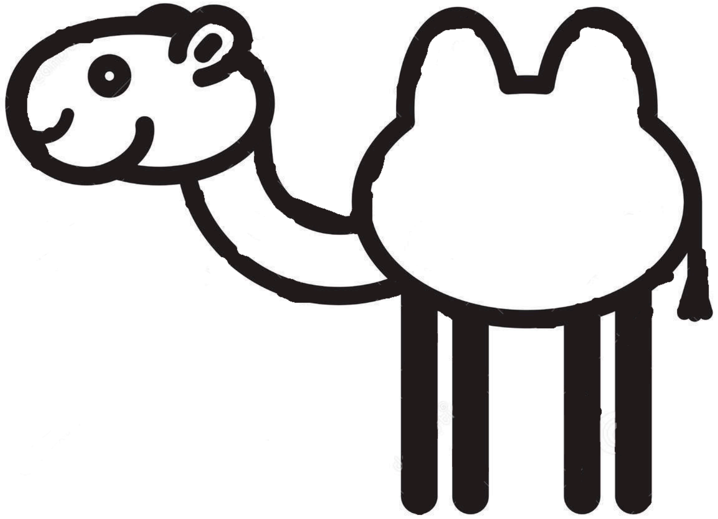
++

--

Operators to store values

Don’t get the hump

Have you noticed we've stuck to a particular convention when naming variables?



favouriteDrink

thisNumber

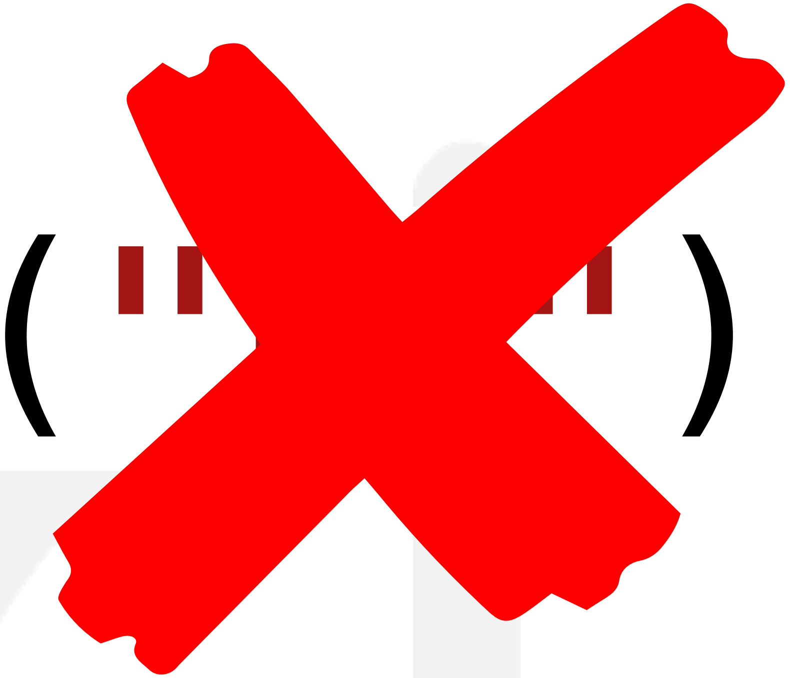
firstName

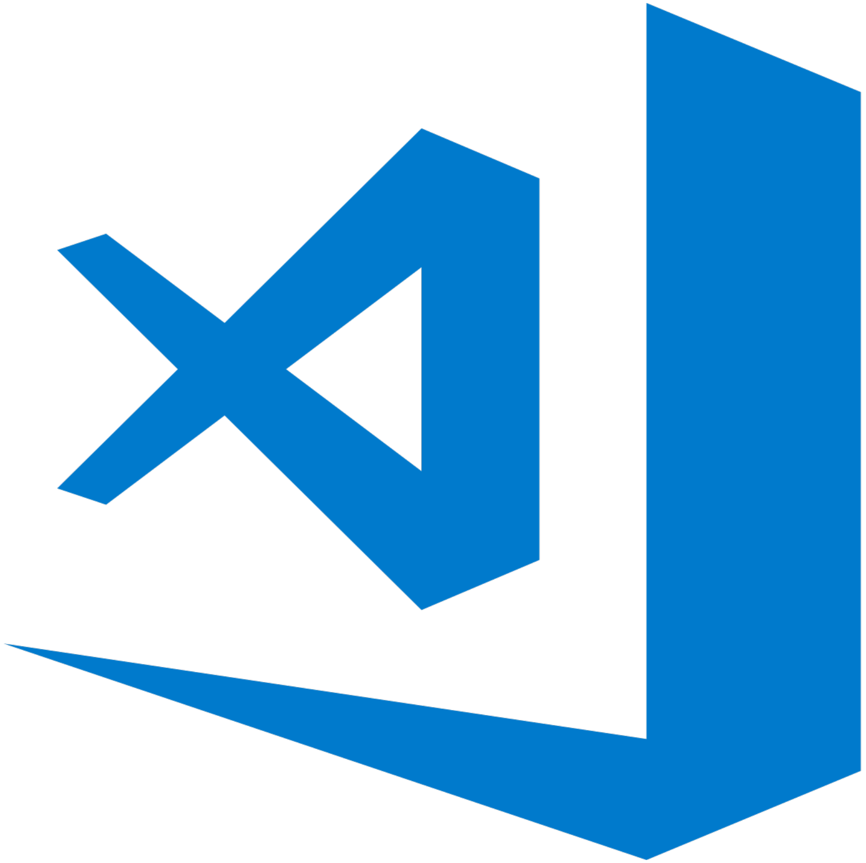
...It's called camelCase.

It's best practice and enhances code readability

How to access data in variables

```
console.log();
console.log("");
```





To VS Code

```
let favouriteDrink = "coffee";

console.log(favouriteDrink);
```

```
let favouriteDrink = “coffee";

console.log("My favourite drink
is" + favouriteDrink);
```

```
let favouriteDrink = "coffee";

console.log(`My favourite drink is
${favouriteDrink}`);
```

You can put variables inside strings to create sensible outputs

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Activity(1):

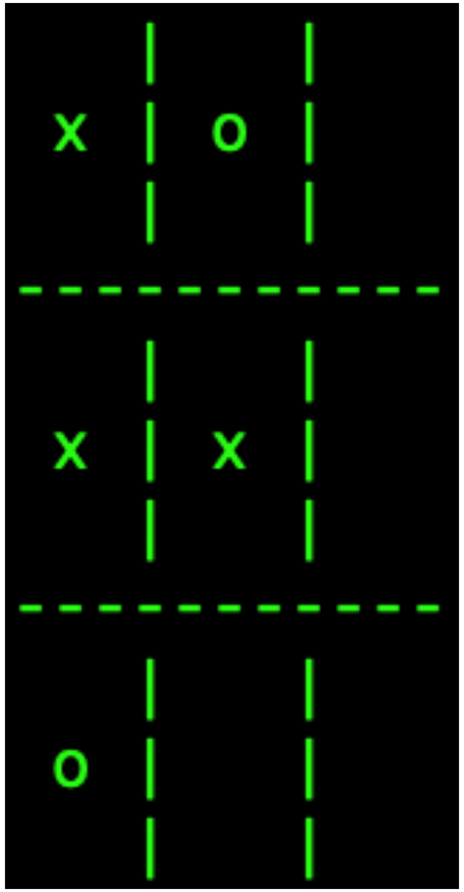
Create a program that stores someone’s name, age and favourite colour that logs to the console in a complete sentence

Activity(2):

(1) Create a 9 variables space1, space2... space9

(2) Assign either the value ‘x’, ‘o’, ‘ ’ to each of these variable

(3) Insert the variables into the board using the ${varName} syntax and make your board look like the one displayed



```
   |   |
 x | o |
   |   |
-----------
   |   |
 x | x |
   |   |
-----------
   |   |
 o |   |
   |   |
```