5. Introduction to JavaScript

5.1 Introduction

- Low level languages

    - Closer to being understood by a computer's CPU

- High Level Languages

    - Needs to be interpreted → Changed to CPU-understandable language

- JavaScript

    - Language used to incorporate interactivity into web pages

    - Allows direction interaction with the webpages dynamically

    - Backwards compatible

    - * New Tip * - In browser when we write %c in console log statement - the next line is treated as the CSS

5.2 Data Types

- **Primitive Data Types**

    - String

    - Number - Integers and decimal points

- Boolean - *true* or *false*

  - Null - Absence of Value

  - Undefined - Variable not assigned a Value

  - Symbol - Use as unique identifier

  - Big Int - To accommodate a greater range of number

5.3 Operators

- **Arithmetic**

  - Add (+)

  - Subtraction (-)

  - Multiplication (*)

  - Divide (/)

- **Logical**

  - && (AND)

  - || (OR)

  - ! (NOT)

- Comparisons

  - > (Greater Than)

  - < (Less Than)

  - == (Equal)

  - === (Strict Equality)

  - != (Inequality)

  - !== (Strict Inequality)

5.4 Objects

- Collection of related properties

  - Each property can be specified as key-value pair

- Dot can be used to add new properties

```
# Method 1

var house = {}

house2.address = 'Ave E';
house2.type = 'Condo';

# Method 2

var house2 = {
  house2.address : 'Ave E',
  house2.type: 'Apartment',
}

# Method 3

var house3 = {}

house3['address'] = 'Ave E';
house3['type'] = 'Studio'
house3['number of members'] = 5
```

- With Bracket Notation → It is possible to add space between the property names.

- **Math object**

  - ceil

  - floor

  - round

  - trunc

  - pow

  - sqrt

  - cbrt

  - abs

5.5 Closer look at Strings

- For-loop can be executed over strings.

- Some common methods

  - Length

- chat At

- Concat

- index of

- split

- to Upper Case

- to Lower Case