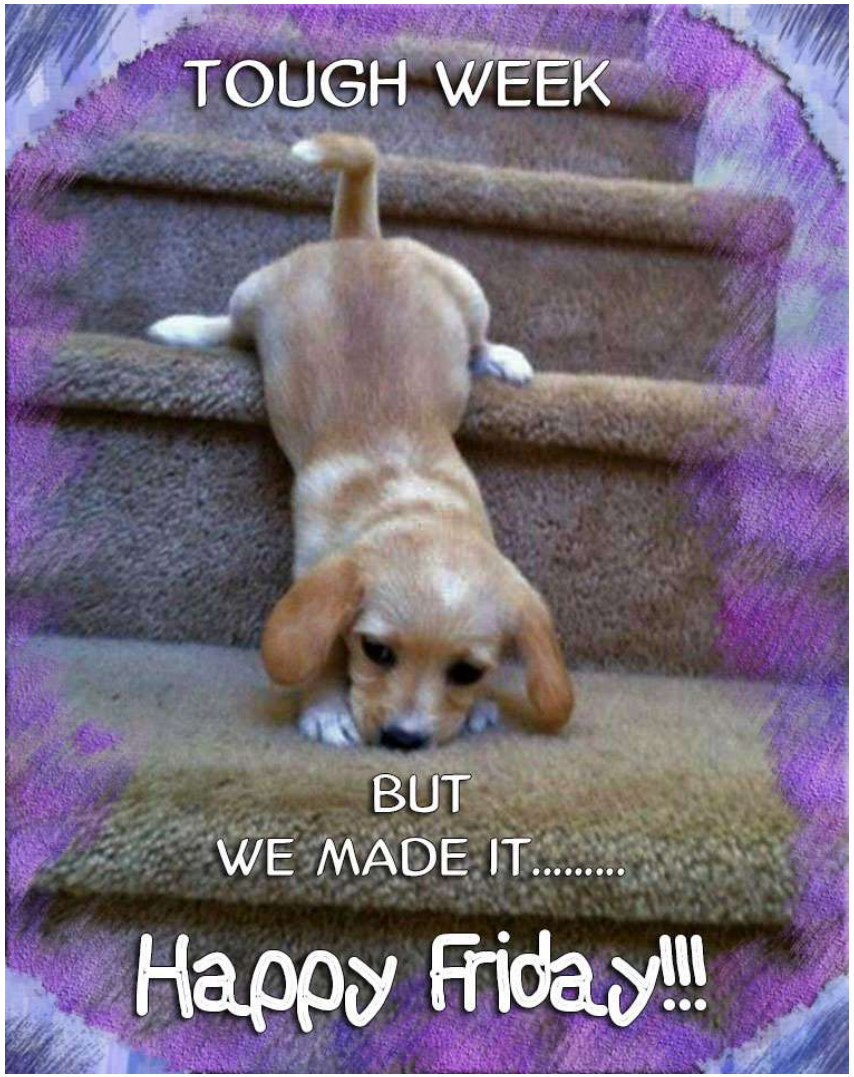
MODULE 3: CLIENT SIDE PROGRAMMING

Introduction to Client Side Scripting with JavaScript


TOUGH WEEK
BUT
WE MADE IT.....
Happy Friday!!!

Days of Dial-Up

Static is booooring

- Client side scripting
  - Executes code on the user's browser
  - Allows us to interact with the HTML rendered and the CSS sent by the server
  - Creates less stress on the server
  - More interactive engaging experiences for users

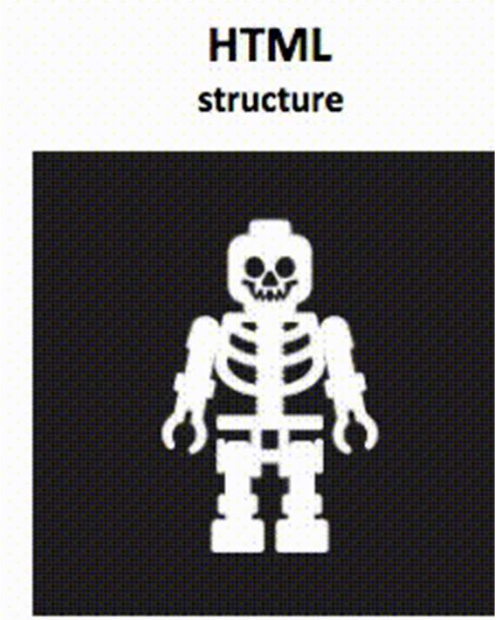
Uses for client side scripting

- Responding to events (click, keypress, scroll, resize)
- Can interact with other web services / APIs to dynamically update the page
- Can manipulate the loaded page without refresh

Separation of Concerns

- What provides the content on a web page
  - HTML
- What provides the look of the web page
  - CSS
- What provides the interaction/behaviors of the web page
  - Client Side Scripting -- Javascript

The parts…



Javascript

- C# requires a __runtime__ to execute.
- Javascript requires a __browser__ to execute.
- C# is __compiled__ code.
- Javascript is __interpreted__ code.
- C# is __statically__ typed language.
- Javascript is __dynamically__ typed language.

Language Types

- A **statically** typed language enforces the data type constraints at compile-time

- A **dynamically** typed language infers the data type of what the variable holds at run-time

LET'S CODE!

ELEVATE YOURSELF

Variable Declaration

- var – old style declaration.

- const
- let

```
{
        var x = 2;
}
Console.log(x);
```

```
{
        let x = 2;
}
Console.log(x);
```

Strict Equality vs. Loose Equality

- **Strict Equality** compares two operands for type and value equality (===)
- **Loose Equality** compares two operands for value only after converting to a common type. It will consider two values equal if they have the same value (==)

All our old friends are back!

Comparison Operators

- A **boolean expression** is an expression that produces a boolean value (true or false) when evaluated

Operator	Meaning
==	Equals To
!=	Not Equal To
>	Greater Than
<	Less Than
>=	Greater Than or Equal To
<=	Less Than or Equal To

Logical Operators

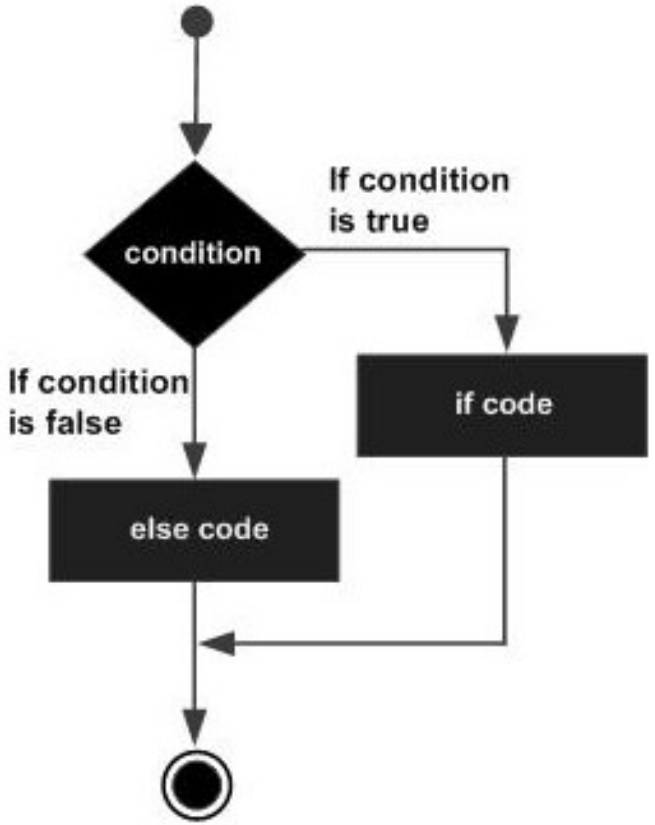
A	B	!A	A && B	A || B	A^B
True	True				
True	False				
False	True				
False	False				

Logical Operators

A	B	!A	A && B	A || B	A^B
True	**True**	False	True	True	False
True	**False**	False	False	True	True
False	**True**	True	False	True	True
False	**False**	True	False	False	False

If Statement

```
If (condition)
{
   <if code>
} else {
   <else code>
}
```



Code Blocks and Scope

- Code that needs to belong together as a single unit can be written in **blocks**.

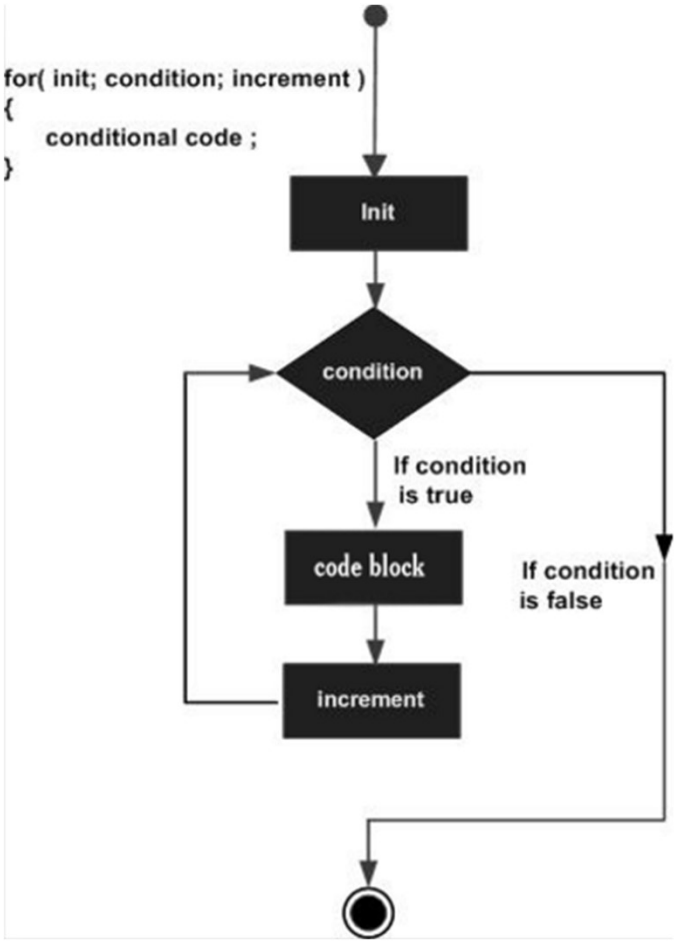
```
{
    let length;
    let width;
    let area;
    area = length * width;
}
```

Arrays

- not fixed in size
- methods:
  - .concat()
  - .push()
  - .pop()

Accessing Elements in an Array

- For loop allows you to check each element in an array.



Memorize this code segment!!

```
for(let i = 0; i < scores.length; i++) {
    …
}
```

While and Do While

```
while (condition)
{
        loop to execute
}
```

```
do
{
        loop to execute
} while (condition)
```

Object Literals

```
function createObject() {
  const obj = {
    firstName: "John",
    lastName: "Smith",
    age: 40
  };

  return obj;
}
```

LET'S CODE!

WHAT QUESTIONS DO YOU HAVE?

Reading for tonight:

Functions