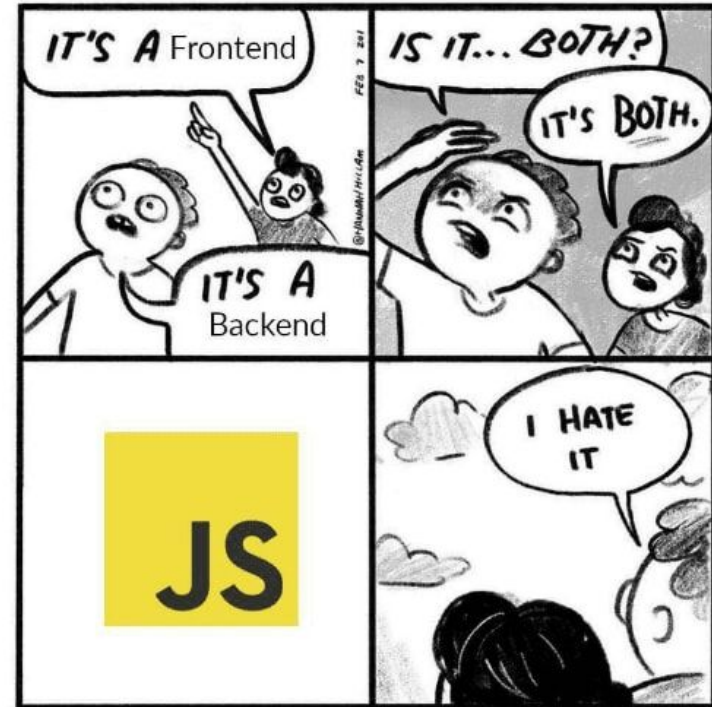ASTANA IT
UNIVERSITY

Intro to JavaScript ES6

Structure of the lesson

- Intro to JavaScript
- Data types and Variables
- Naming and Naming Conventions for JavaScript Variables
- Strings
- Basic Arithmetic and Modulo Operator in JavaScript
- Functions

It's a Meteor !
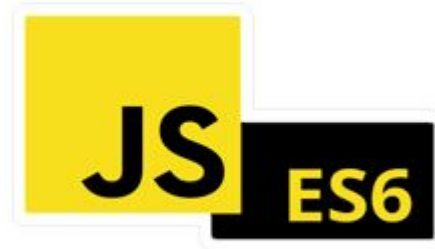
History of JavaScript
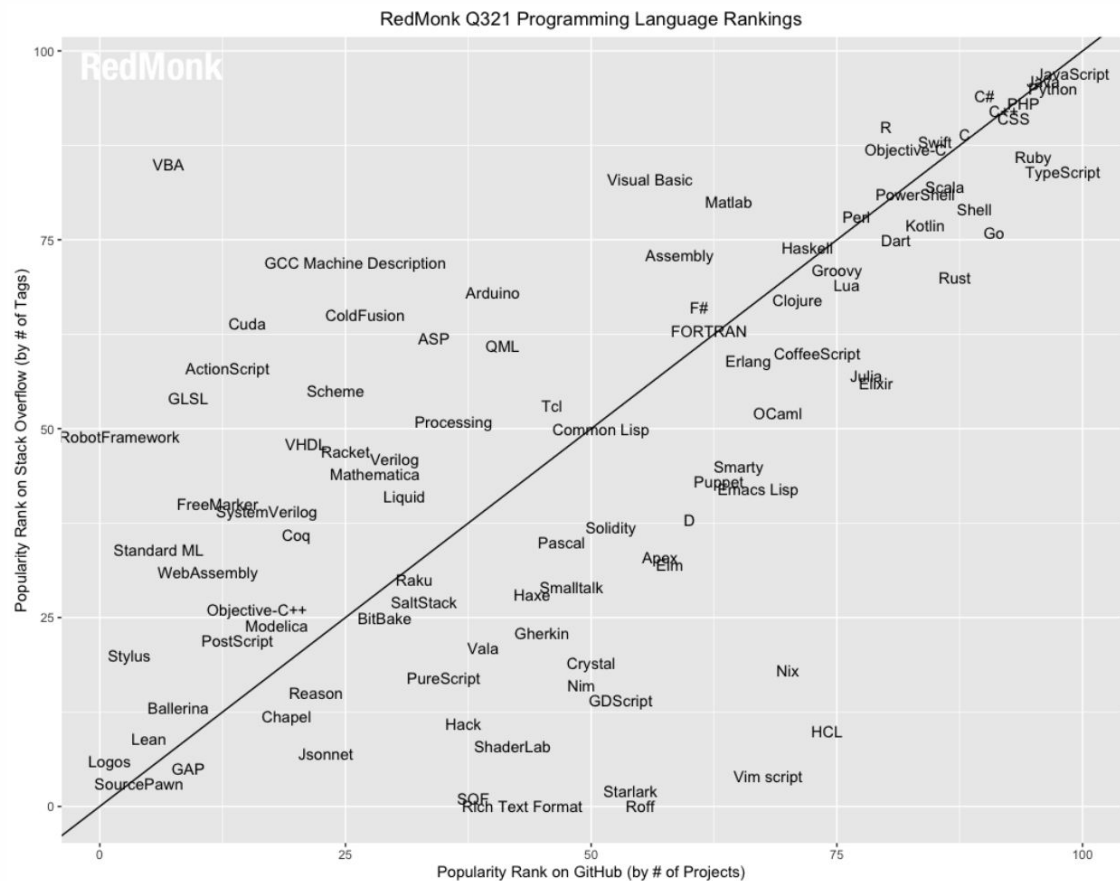
JavaScript

The language that powers the web

In September 1995, a Netscape programmer named Brandan Eich developed a new scripting language in just 10 days. It was originally named Mocha, but quickly became known as LiveScript and, later, JavaScript.

Brendan Eich

Mocha->LiveScript->JavaScript->ECMAScript

RedMonk Programming Language Ranking

RedMonk Q321 Programming Language Rankings

Data types and Variables

String	Numbers	Boolean
"Hello"	123	true false

Data types and Variables

```
var myName = "Alex";

var myAge = 18;

var myBool = true;
```

```
var yourName = prompt("What is your name?");

alert(myName);

alert("My name is" + myName + "and your name is" + yourName + ".");
```

Naming and Naming Conventions

var **var** = "abc";

var **123** = 123;

var **my name** = "Alex";

var **abc123()-=+^&** = "abc";

var **my-name** = "Nick";

→

var **myvar** = "abc";

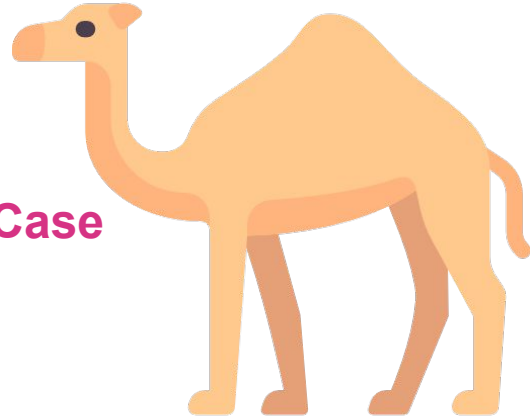var **my123** = 123;

var **myName** = "Alex";

var **abc123$_** = "abc";

var **my_name** = "Nick";

Naming and Naming Conventions

`var` **newVariable** `= "someword";`

camelCase

Strings

"a" + " b" = "ab" - Concatenation

var word = "something";

word.length(); - property that returns the number of characters inside the word - 9 in case of word "something";

word.slice(0,1); -returns "s";
word.slice(1,6); - returns "ometh";- method extracts a section of a string and returns it as a new string, without modifying the original string.

word.toUpperCase(); - method returns the calling string value converted to uppercase (the value will be converted to a string if it isn't one).

word.toLowerCase(); - method returns the calling string value converted to lowercase (the value will be converted to a string if it isn't one).

Basic Arithmetic and Modulo Operator

Addition

var a = 2 + 3;

Subtraction

var b = 10 - 2;

Multiplication

var c = 3 * 3;

Division

var d = 6 / 2;

Modulo

var e = 9 % 6;

Basic Arithmetic and Modulo Operator

Dog age to Human Age formula

humanAge = (dogAge - 2)*4+21

Basic Arithmetic and Modulo Operator

var x = 5;

x = x+1; //6 ⟶ x++;//6 - increment

x = x-1; //4 ⟶ x- -;//4 - decrement

+=

x+=2;//7

-=

x-=y; where y is whatever number;

*=
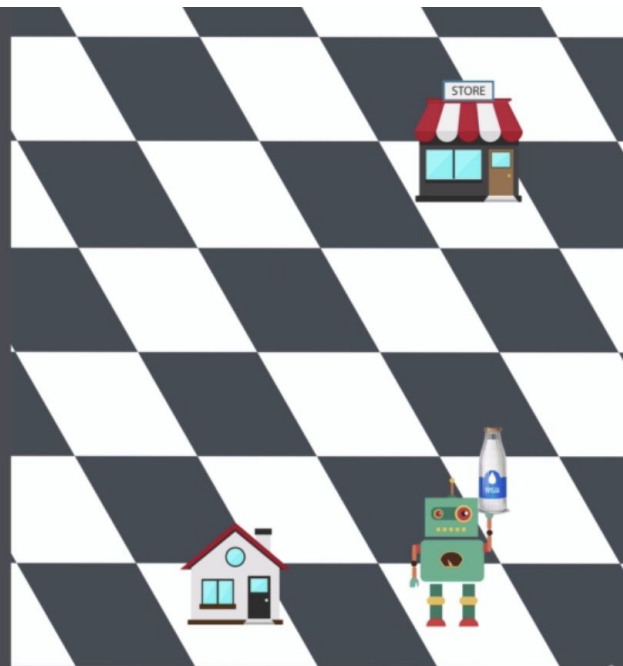
/=

i = i + 1

i += 1

i++

i -=- 1

Functions
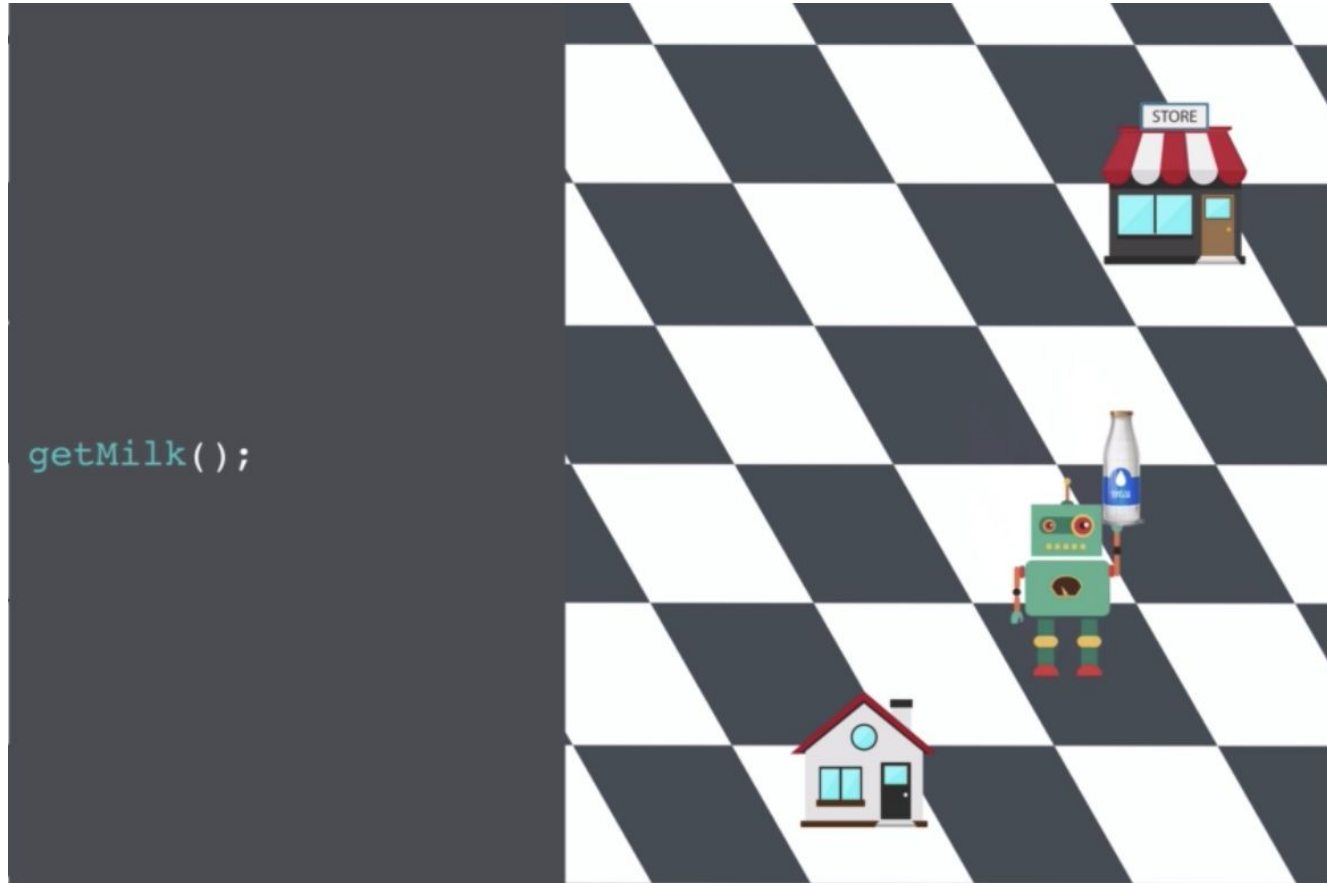
```
function getMilk() {
    alert("leaveHouse");
    alert("moveRight");
    alert("moveRight");
    alert("moveUp");
    alert("moveUp");
    alert("moveUp");
    alert("moveUp");
    alert("moveRight");
    alert("moveRight");
    alert("buyMilk");
    alert("moveLeft");
    alert("moveLeft");
    alert("moveDown");
    alert("moveDown");
    alert("moveDown");
    alert("moveDown");
    alert("moveLeft");
    alert("moveLeft");
    alert("enterHouse");
}
```

```
alert("leaveHouse");
alert("moveRight");
alert("moveRight");
alert("moveUp");
alert("moveUp");
alert("moveUp");
alert("moveUp");
alert("moveRight");
alert("moveRight");
alert("buyMilk");
alert("moveLeft");
alert("moveLeft");
alert("moveDown");
alert("moveDown");
alert("moveDown");
alert("moveDown");
alert("moveLeft");
alert("moveLeft");
```

Functions


```
getMilk();
```

Functions

```
function getMilk ( ) {
```

```
alert   leaveHouse
alert   moveRight
alert   moveRight
alert   moveUp
alert   moveUp
alert   moveUp
alert   moveUp
alert   moveRight
alert   moveRight
alert   buyMilk
alert   moveLeft
alert   moveLeft
alert   moveDown
alert   moveDown
alert   moveDown
alert   moveDown
alert   moveLeft
alert   moveLeft
alert   enterHouse
}
```

Calling the function

```
getMilk();
```

Functions. Try with me

```javascript
function getMilk() {
  console.log("leaveHouse");
  console.log("moveRight");
  console.log("moveRight");
  console.log("moveUp");
  console.log("moveUp");
  console.log("moveUp");
  console.log("moveUp");
  console.log("moveRight");
  console.log("moveRight");
  console.log("moveLeft");
  console.log("moveLeft");
  console.log("moveDown");
  console.log("moveDown");
  console.log("moveDown");
  console.log("moveDown");
  console.log("moveLeft");
  console.log("moveLeft");
  console.log("enterHouse");
}
```

Functions - Arguments and Parameters


```
getMilk(2);
```

Functions - Arguments and Parameters

```
function getMilk(bottles){
```

Creating the function

```
function getMilk (bottles) {
    var cost = bottles * 1.5;
    //Do something with cost
}
```

Calling the function

```
getMilk(2);
```

```
alert("leaveHouse");
alert("moveRight");
alert("moveRight");
alert("moveUp");
alert("moveUp");
alert("moveUp");
alert("moveUp");
alert("moveRight");
alert("moveRight");
alert("buy" + bottles + "bottles of Milk");
alert("moveLeft");
alert("moveLeft");
alert("moveDown");
alert("moveDown");
alert("moveDown");
alert("moveDown");
alert("moveLeft");
alert("moveLeft");
alert("enterHouse");
```

```
}
```

Useful links

- [Brief History of JavaScript](#)

- [The History of Internet Explorer Comic Strip](#)

- [Writing Good Javascript Guidelines](#)

- [Karel Online IDE](#)

- [String length property](#)

- [String slice method](#)

- [String toUpperCase method](#)