

**JS**

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Antihero Honored in PAX 10 Selection! Play digital board game Antihero and see why it was honored in this year's PAX 10 line up. BUY ON STEAM TODAY.

promoted by Versus\_Evil\_Games

promoted report

(store.steampowered.com)
- 2

↑  
25.6k  
↓



'Ready Player One' Official Trailer


Trailers

(youtube.com)

submitted 4 hours ago by ImpeccableTim to r/movies

3879 comments share report
- 3

↑  
25.7k  
↓



Women burn burqas and men shave beards to celebrate liberation from Isis in Syria | The Independent


Syria/Iraq

(Independent.co.uk)

submitted 5 hours ago by Shockingandawesome to r/worldnews

2027 comments share report
- 4

↑  
19.5k  
↓




TIL The reason hurricanes and cyclones have human names is that the original meteorologist to name them, Clement Wragge, began naming them after politicians he didn't like. This let him say they were 'causing great distress' or 'wandering aimlessly'.

(atlasobscura.com)

submitted 6 hours ago by unrestive to r/todayilearned

274 comments share report
- 5

↑  
7867  
↓



READY PLAYER ONE Comic-Con Trailer (2018) - Steven Spielberg


Promo

(youtube.com)

submitted 4 hours ago by EpicMangoDude to r/videos

1012 comments share report
- 6

↑  
32.1k  
↓




NASA Is Uploading Decades of Archival Footage to YouTube

(motherboard.vice.com)

submitted 7 hours ago by cyanocittaetprocyon to r/space

554 comments share report
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↑  
16.4k  
↓



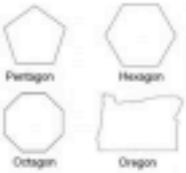
How to extinguish fires in games

(i.imgur.com)

submitted 6 hours ago by RunningSimulator to r/gaming

200 comments share report
- 8

↑  
10.1k  
↓




Simple geometry

(i.redd.it)

submitted 6 hours ago by wasd\_man to r/funny

330 comments share report
- 9

↑  
19.0k  
↓




Man comforts his son before being deported to Mexico after 16 years in the US.

(i.imgur.com)

submitted 6 hours ago by TragicDonut to r/pics

4877 comments share report
- 10

↑  
52.6k  
↓




Ever seen a hidden ceiling TV?

(i.imgur.com)

submitted 7 hours ago by ExpMark to r/gifs

2274 comments share report
- 11

↑  
6167  
↓




My girlfriend beat Acute Myeloid Leukemia and was cleared to go to my best friend's wedding with me. This was a very good weekend.

(i.redd.it)

submitted 6 hours ago by TheRobertofDespair to r/happy

143 comments share report
- 12

↑  
8559  
↓




Handheld printer

(imgur.com)

submitted 7 hours ago by im14andthisisdick to r/oddlysatisfying

267 comments share report
- 1

↑  
31.9k  
↓



Lizard laid eggs in my wall.

(i.redd.it)

submitted 8 hours ago by dc\_txtech to r/mildlyinteresting

1266 comments share report

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# JS

## The Browser Fundamental Types

- Number
- String
- Boolean
- Undefined
- Objects

## Object Constructors & Instances

## Prototype Chain

## Looping

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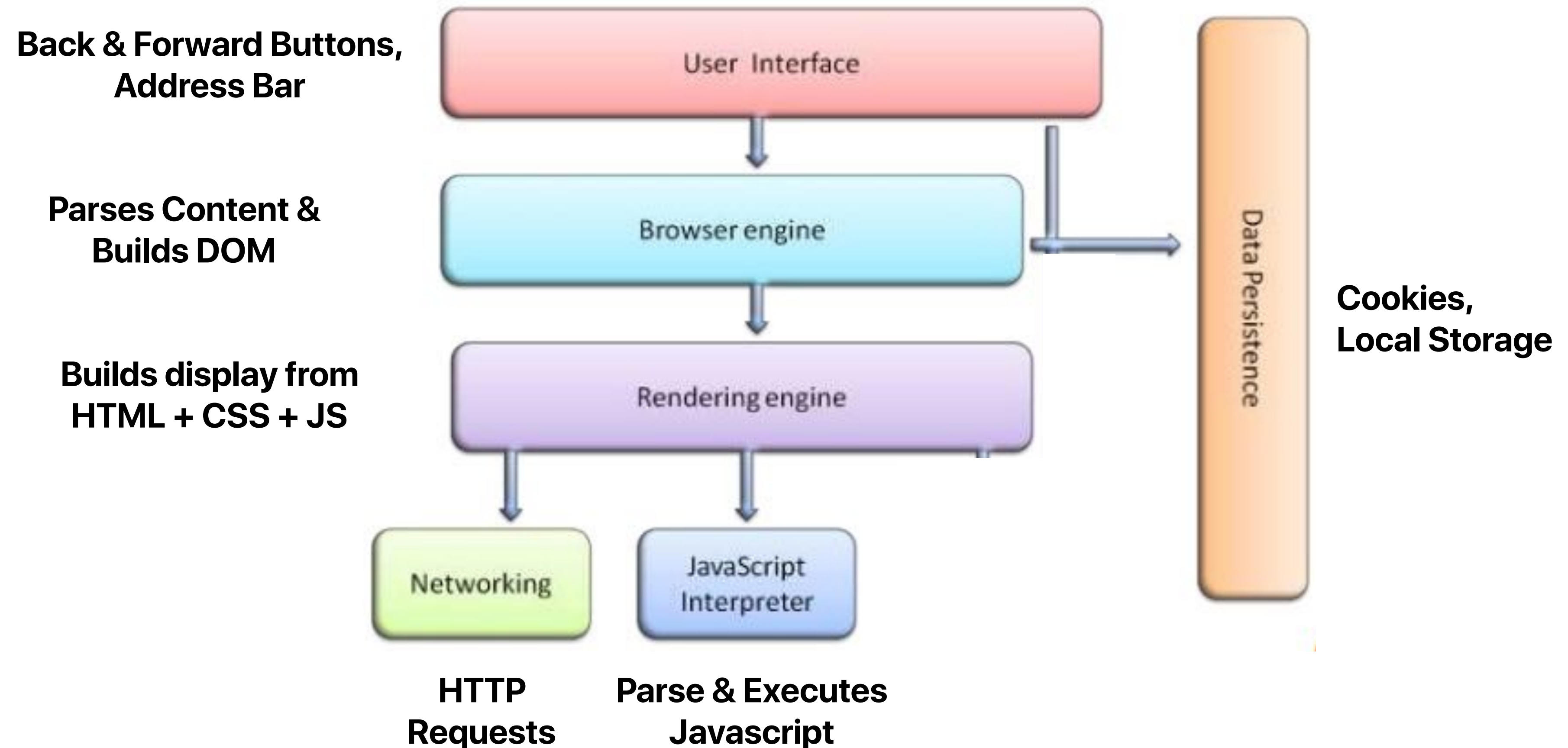
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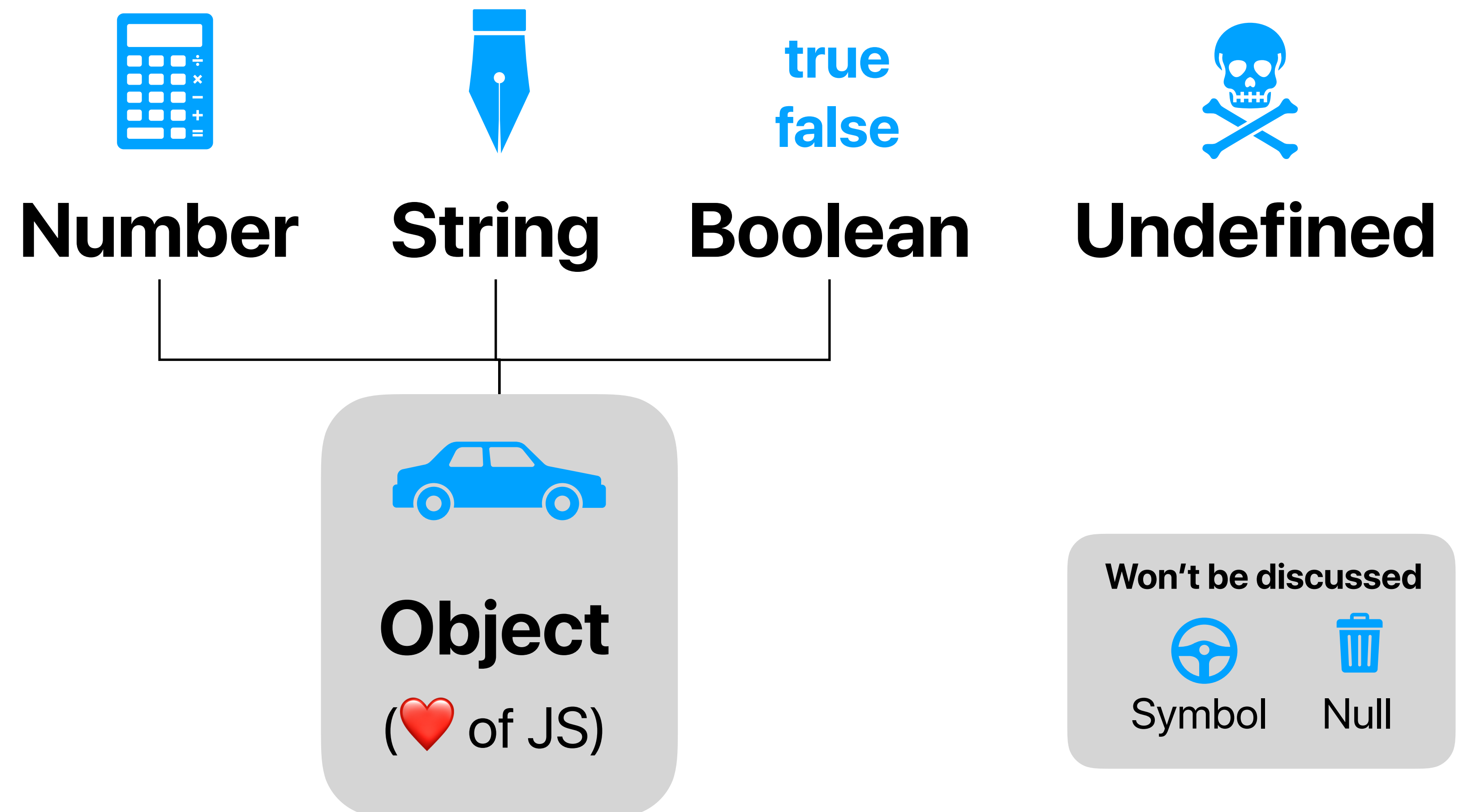
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# Fundamental Types of Javascript



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# Number

```
1e1 - 1 // = 9
```

```
2 - 1.5 // = 0.5
```

```
4 % 3 // = 1
```

```
NaN, -Infinity, Infinity
```

```
Math.sqrt(4) // = 2
```

```
Math.pow(10, 4) // = 10000
```

```
// calculate standard normal distribution
```

```
function stdnorm(x) {  
    numerator = Math.exp(- Math.pow(x, 2) / 2)  
    denominator = Math.sqrt(2 * Math.PI)  
    return numerator / denominator;  
}
```

$$f(x) = \frac{e^{-x^2/2}}{\sqrt{2\pi}}$$

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# String

```
// Strings are concatenated with +  
"Hello " + "world!"; // = "Hello world!"
```

```
// Which works with more than just strings  
"1, 2, " + 3; // = "1, 2, 3"  
"Hello " + ["world", "!"] // = "Hello world,!"
```

```
// You can access characters in a string with `charAt`  
"This is a string".charAt(0); // = 'T'
```

```
// or use `substring` to get larger pieces.  
"Hello world".substring(0, 5); // = "Hello"
```

```
// `length` is a property, so don't use ().  
"Hello".length; // = 5
```

```
// Templates use backticks (` `) rather than double or single quotes  
var x = "Gabe"  
`Hi there ${x}` // = "Hi there Gabe"  
"Hi there " + x // = "Hi there Gabe"
```

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# Boolean

```
var foo = true;  
var bar = false;
```

```
if (foo !== bar) {  
  console.log('very unequal so true 🐕')  
} // logs!
```

```
if (0 == false) {  
  console.log('holy guacamole, 0 is false')  
} // 0 is casted to a boolean
```

```
if (0 === false) {  
  // doesn't log! 0 is not the false keyword  
  console.log('but.. is it really false? 🙌')  
} else if ((0 == false && 1 == true) || 'this is a string') {  
  // logs! 1 is casted to true, and so are any non-empty strings!  
  console.log('whoa. it was true.')  
}
```



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# Undefined

```
/*  
 * used to indicate a value is not currently present  
 * (although `undefined` is actually a value itself)  
*/
```

```
var x;  
x // = undefined  
x + 1 // = NaN
```

```
x = 1;  
x // = 1  
x + 1 // = 2
```

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# Objects

```
// objects are equivalent to dict in python
```

```
var myObj = {key1: "Hello", key2: "World"};
```

```
// Keys are strings, but quotes aren't required if they're a valid
```

```
// JavaScript identifier. Values can be any type.
```

```
var myObj = {myKey: "myValue", "my other key": 4};
```

```
// Object attributes can also be accessed using the subscript syntax
```

```
myObj["my other key"]; // = 4
```

```
// or using the dot syntax, provided the key is a valid identifier.
```

```
myObj.myKey; // = "myValue"
```

```
// Objects are mutable; values can be changed and new keys added.
```

```
myObj.myThirdKey = true;
```

```
// If you try to access a value that's not yet set, you'll get  
undefined.
```

```
myObj.myFourthKey; // = undefined
```

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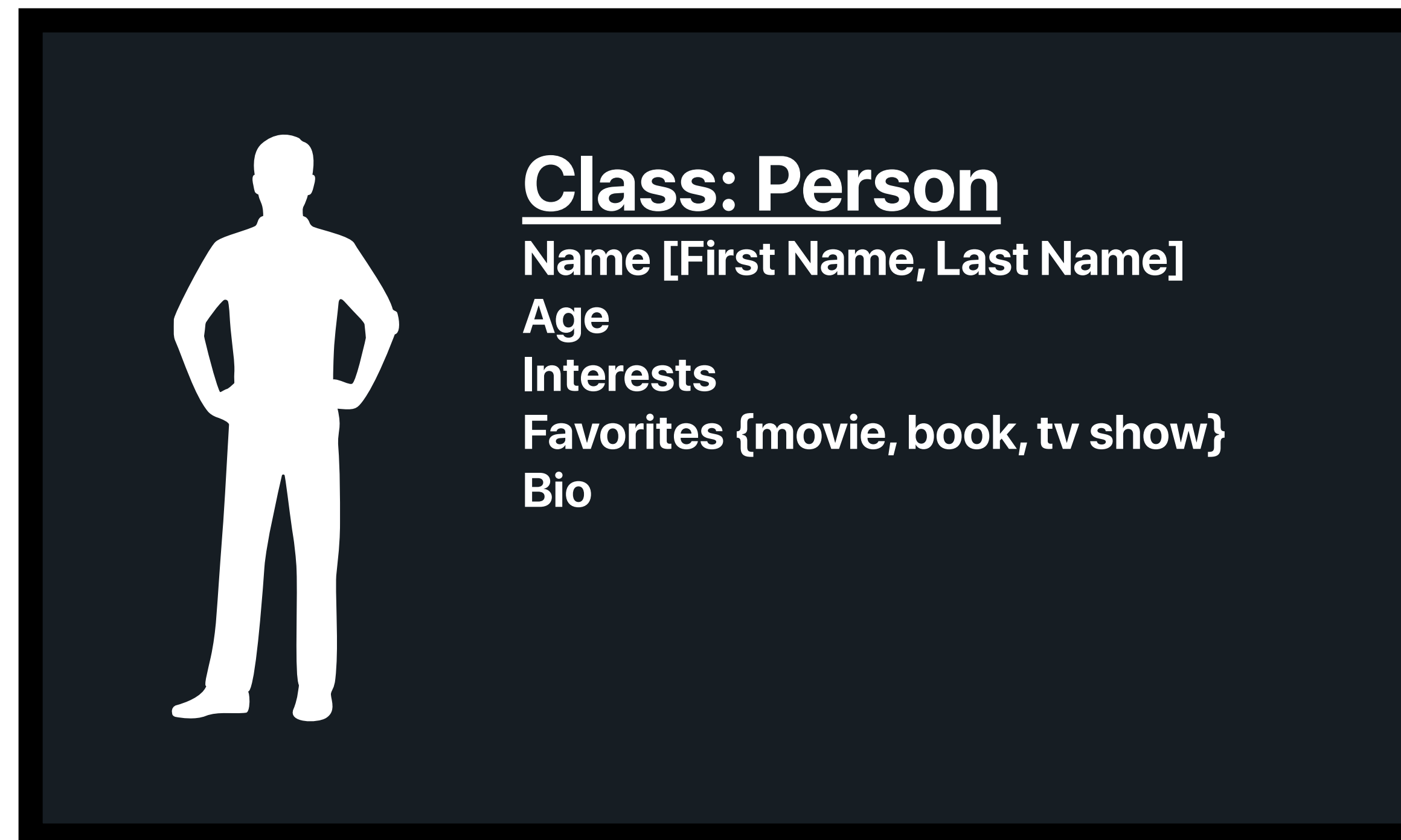
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# Object Constructors & Instances



**Define an Object Template**

# Object Constructors & Instances

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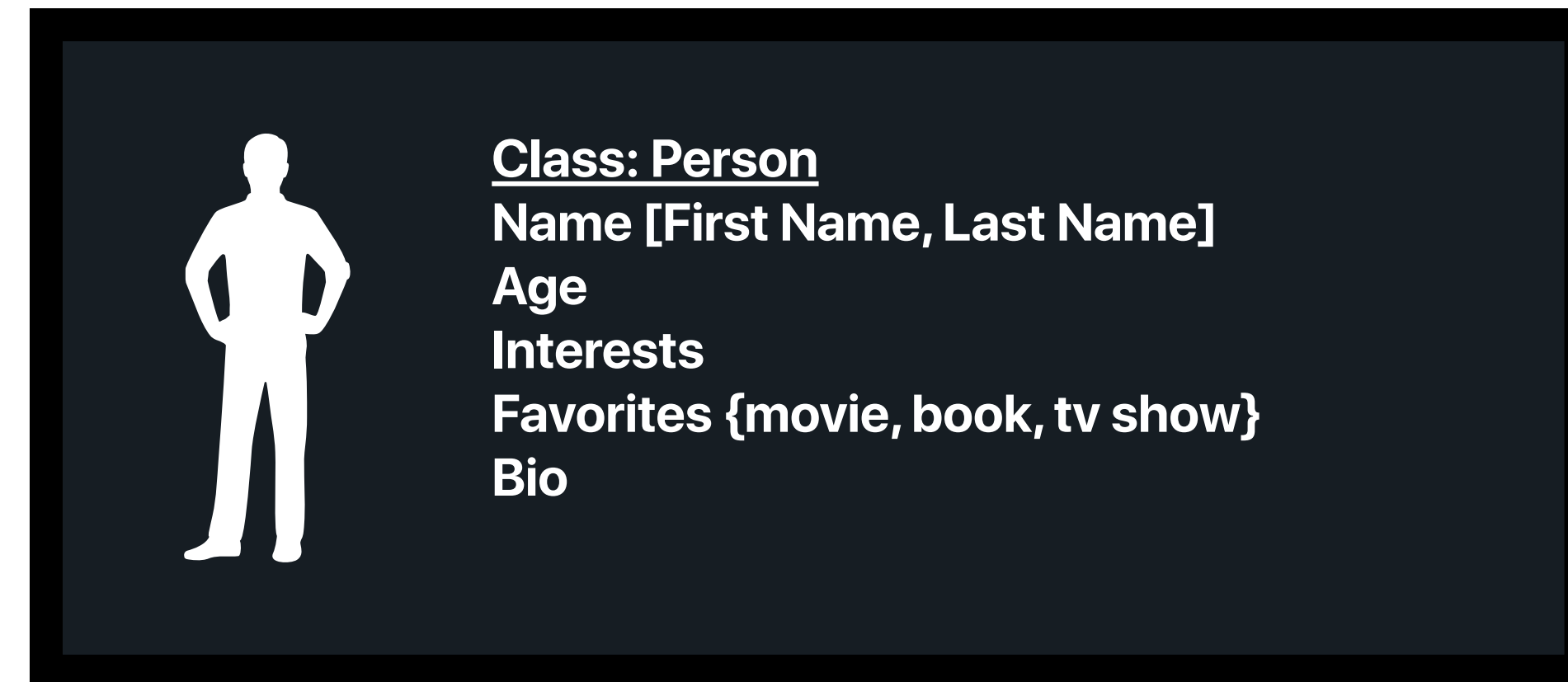
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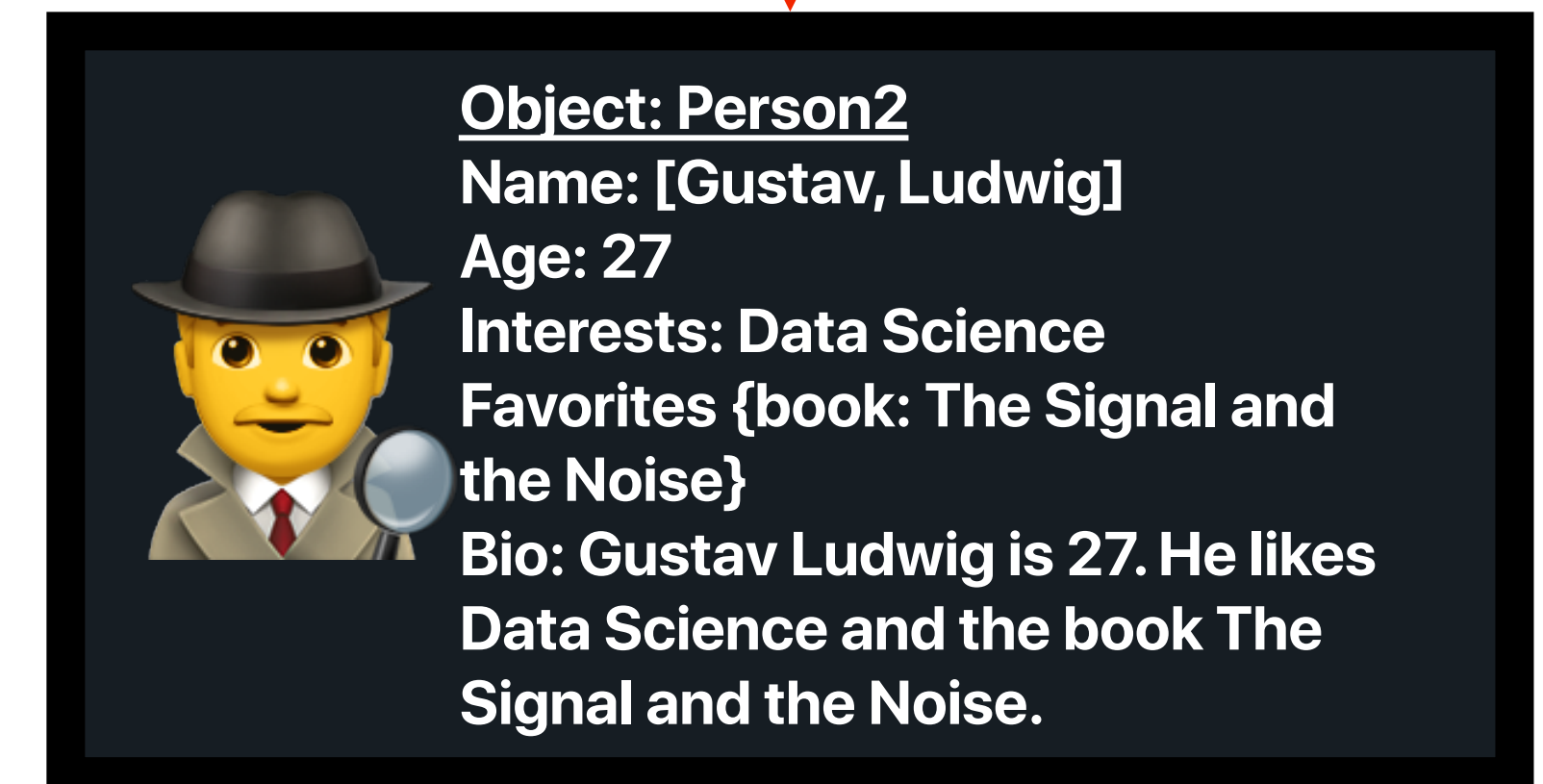
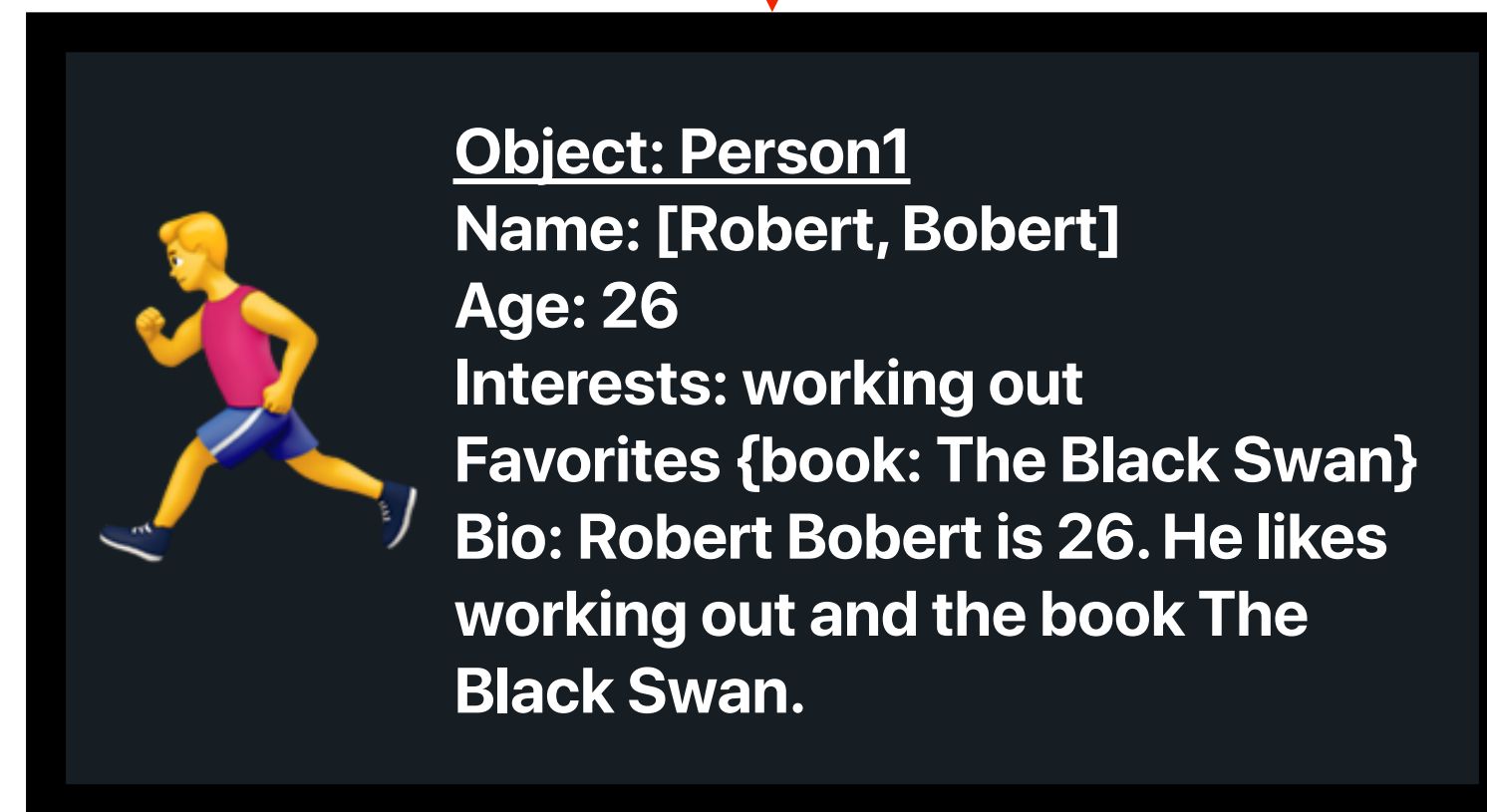
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Instantiation





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# Object Constructors & Instances

```
/* Creates a constructor function called Person that takes in a few arguments about
 * the person to initialize an instance. The class is instantiated using the 'new'
 * keyword followed by the class name, and arguments to initialize the class.
 */
```

```
function Person(first, last, age, interests, favorites) {
  this.name = {
    first,
    last
  };
  this.age = age;
  this.interests = interests;
  this.favorites = favorites;
  this.bio = function() {
    return this.name.first + ' ' + this.name.last + ' is ' + this.age +
      '. He likes ' + this.interests + ' and ' + this.favorites.book + '.';
  };
}
```

```
var person1 = new Person('Robert', 'Bobert', 26, 'working out', {book: 'The Black Swan'});
var person2 = new Person('Gustav', 'Ludwig', 27, 'Data Science', {book: 'The Signal and the Noise'});
```

```
person1.bio();
person2.bio();
```

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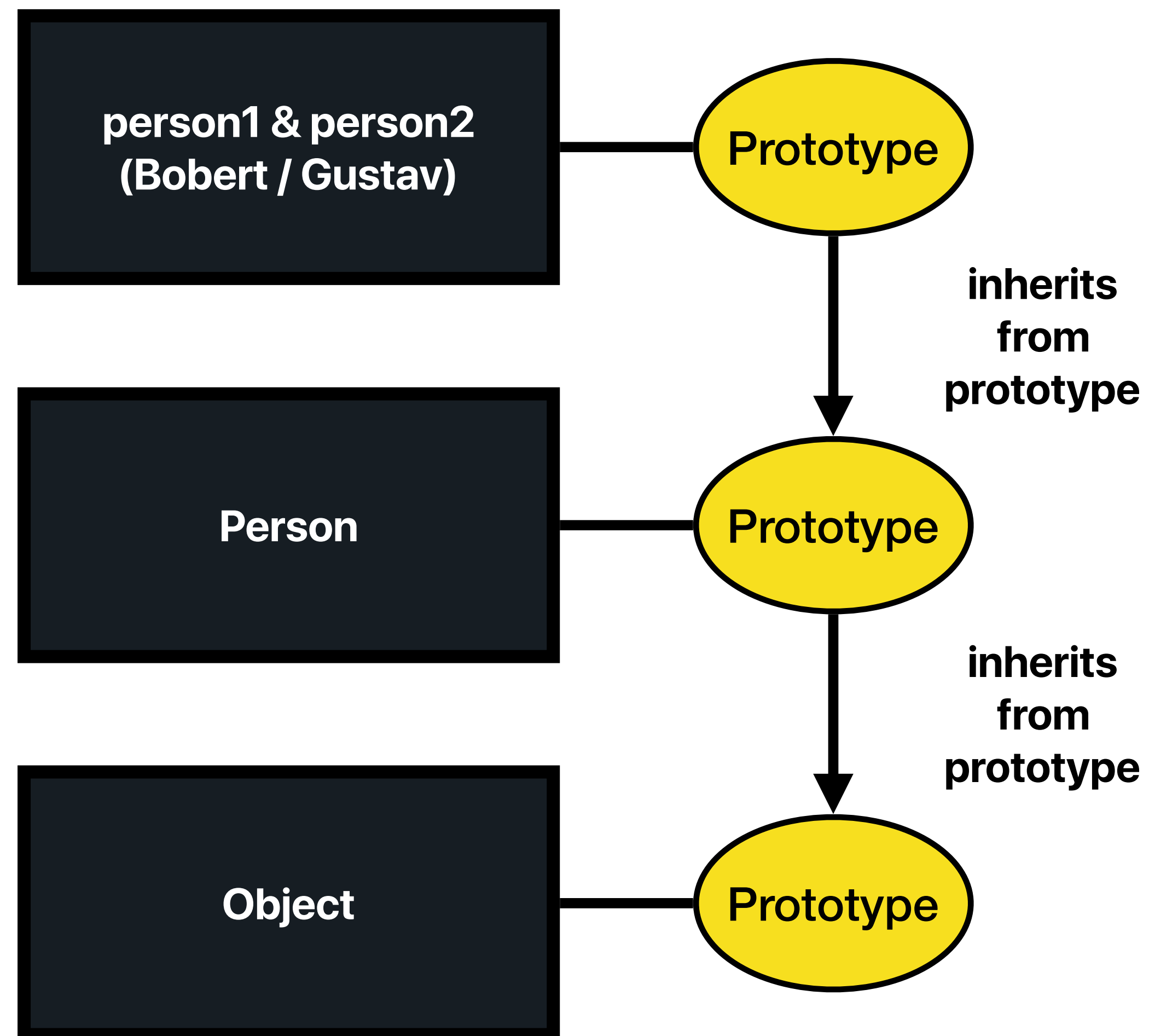
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# The Prototype Chain



# JS

# The Prototype Chain

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```
/*
 * Creates a constructor function called Person and uses the prototype to add in
 * the bio method that can be accessed by person1 and person2.
 */

function Person(first, last, age, interests, favorites) {
  this.name = {
    first,
    last
  };
  this.age = age;
  this.interests = interests;
  this.favorites = favorites;
}

Person.prototype.bio = function() {
  alert(`${this.name.first} ${this.name.last} is ${this.age}. He likes `
    + `${this.interests} and ${this.favorites.book}.`);
};

var person1 = new Person('Robert', 'Bobert', 26, 'working out', {book: 'The Black Swan'});
var person2 = new Person('Gustav', 'Ludwig', 27, 'Data Science', {book: 'The Signal and the
Noise'});

person1.bio();
person2.bio();
```

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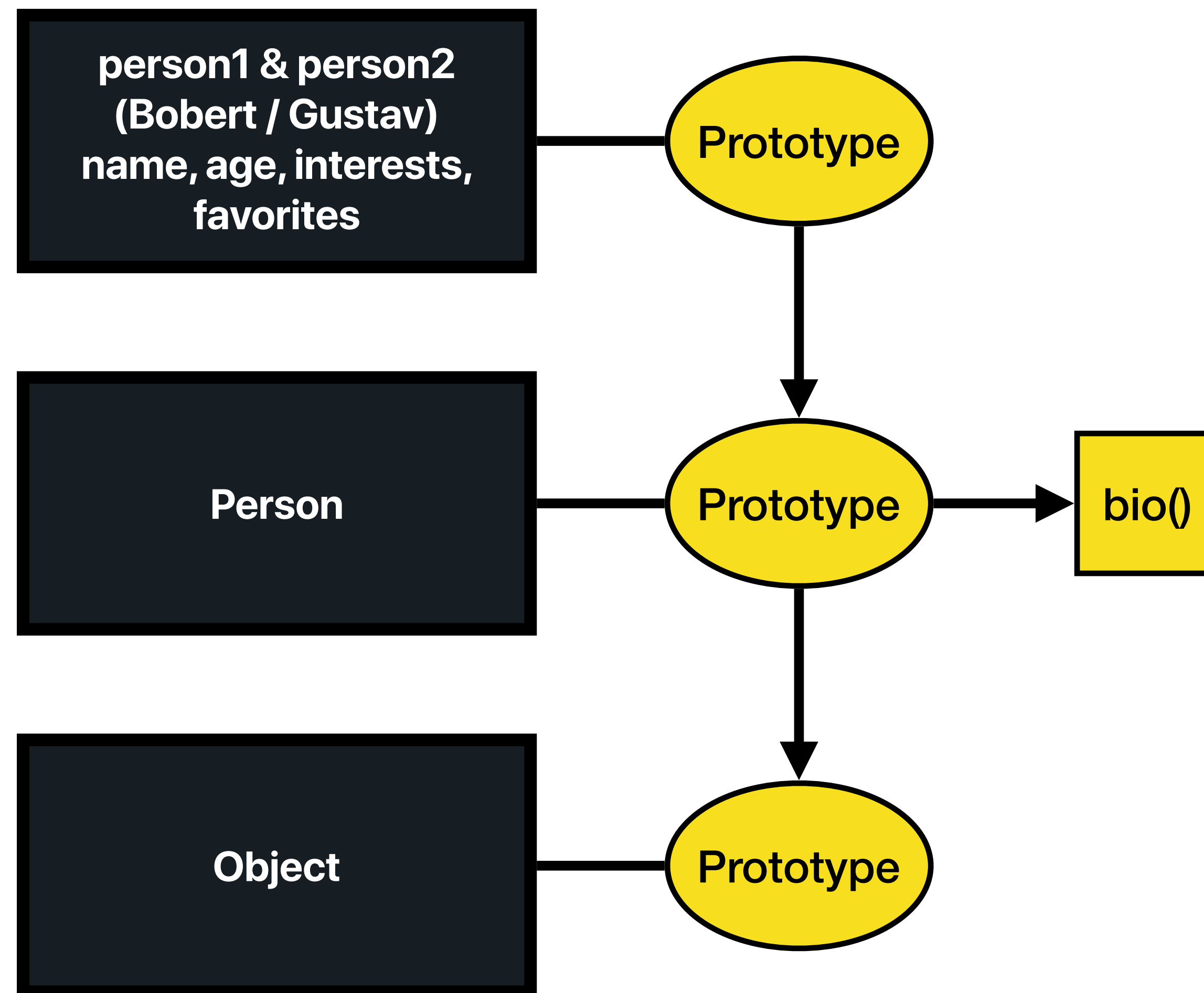
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# The Prototype Chain





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# Looping

```
while (true){  
    // An infinite loop!  
}
```

```
// Do-while loops are like while loops, except they  
// always run at least once.
```

```
var list = [];
```

```
var i = 0;
```

```
do {  
    list.push(i)  
    i++
```

```
} while (i <= 5)
```

```
// The `for` loop is the same as C and Java:
```

```
// initialization; continue condition; iteration.
```

```
var arr = [1,2,3,4,5];
```

```
for (var i = 0; i < arr.length; i++){
```

```
    // will loop through the array
```

```
    arr[i] += 1;
```

```
}
```

```
arr // = [2,3,4,5,6]
```

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# Looking Back

**Walk me through this code**

```
var data = [1,2,3,4,5];  
data.map( function(x) { return x * 2;} );
```

```
document.getElementById("test").innerHTML =  
    "The coolest kids of the sea ";
```

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# The Browser Environment

<https://developer.mozilla.org/en-US/docs/Web>

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# FizzBuzz

Write a program that prints the numbers from 1 to 100. But for multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".



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# Resources

- **Get rolling really fast with JS:** <https://learnxinyminutes.com/docs/javascript/>
- **Amazing documentation on JS:** <https://developer.mozilla.org/en-US/docs/Web>
- **In depth knowledge of Javascript:** [https://www.youtube.com/watch?v=Bv\\_5Zv5c-Ts](https://www.youtube.com/watch?v=Bv_5Zv5c-Ts) (A few hours of lecture from Tony Alicea's JavaScript: Understanding the Weird Parts Course)
- **Javascript scope & the this keyword:** <https://toddmotto.com/everything-you-wanted-to-know-about-javascript-scope/>
- **Digging deeper into truthy & falsey:** <https://javascriptweblog.wordpress.com/2011/02/07/truth-equality-and-javascript/>