

Fundamentals of Web-Based Multimedia Communications: Imagining the Internet's Interface

JavaScript cont'd

Wednesday 11/9, 1:45-3:00pm

Smith Warehouse Bay 12 A228

CMAC 240L, CMAC 740L, ISS 240L, ISS740L, VMS288L, VMS788L

JavaScript Continued:

tying up loose ends

Loose Ends

...and new threads

- Math Operations
- For Loops
- Working with Arrays
- Review: JavaScript data types
- Accessing data with JavaScript
- Putting it all together

Math Operations

Operations and Operands

+ addition

- subtraction

* multiplication

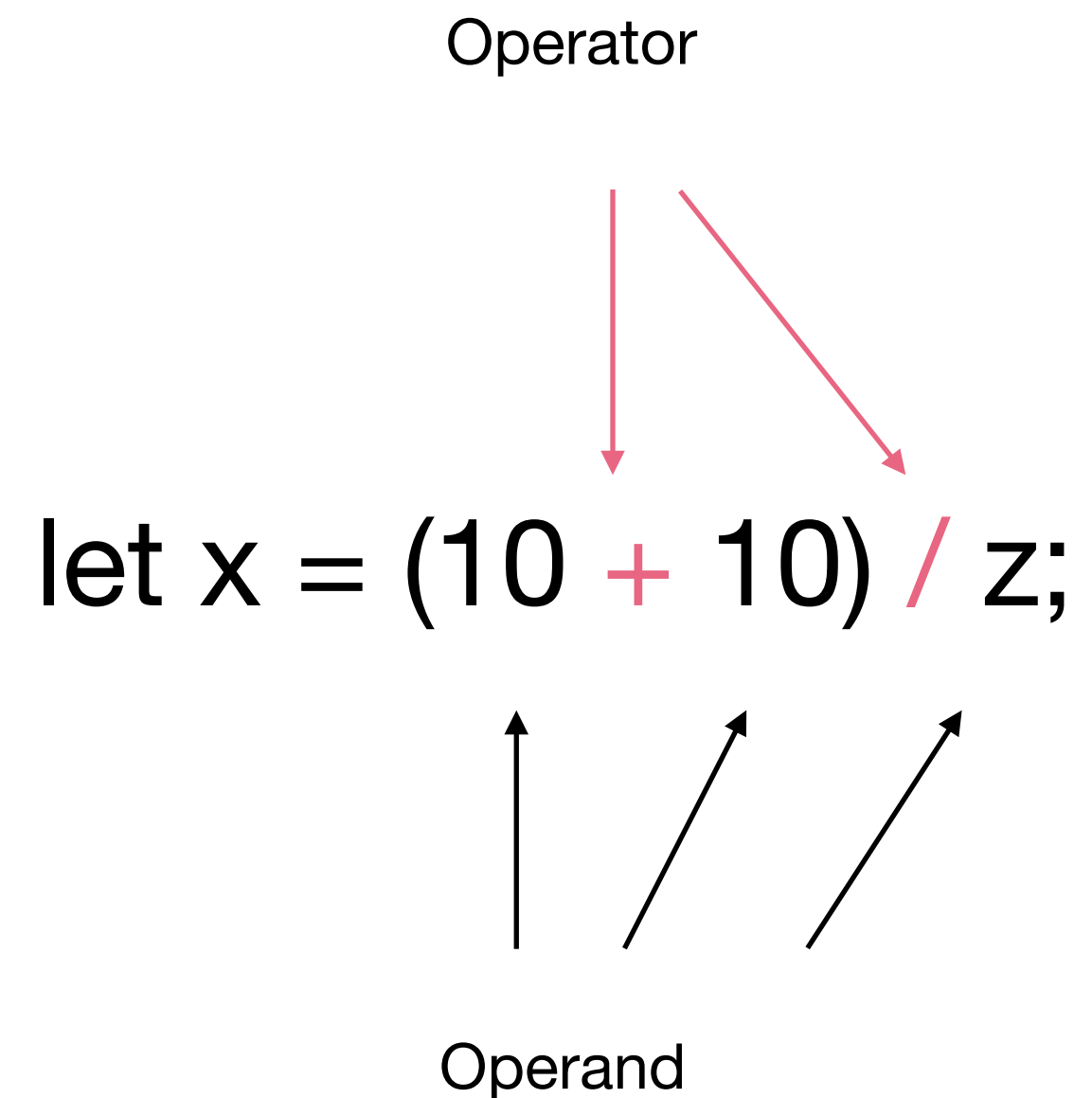
/ division

++ increment

-- decrement

Shorthand operations

Let $y += 5$ is the same as $y = y + 5$



For Loops

Iterating Outside of Time

```
for (let i = 0; i <= 5; i++) {  
  console.log(i);  
}
```

[P5.js example](#)

Working with Arrays

Array Methods

- `sort()`; sorts array alphabetically
- `push()`; adds a new element to the end of the array
- `pop()`; removes last element from array
- `shift()`; removes the first array element (shifts all elements -1 in the index)
- `unshift()`; adds a new element to the beginning of the array
- `join()`; joins all array elements into a string
- And more!

JavaScript Data Types

The 7 basic data types of JavaScript

- A data type is a set of possible values and a set of allowed operations on it
- There are 7 basic data types in JS:
 1. **Number:** for numbers of any kind: integer (-1, 24, 0) or floating-point (2.343, 1.0, 3.14159265). **let x = 1;** or **let x = 1.5;**
 2. **String:** for characters or strings of characters (**let x = "Sam";** or "My name is Sam." or "the creepy and specific identification of your location stored as a string such as 123 Rainbow dr")
 3. **Boolean:** for true or false
 4. **Null:** a special value which represents "nothing", "empty": **let x = null;**
 5. **Undefined:** for unassigned values (e.g. variables declared but not defined) **let x;** **let x;** or **let x = [];** for an undeclared array)
 6. **Object:** for more complex data structures (object-oriented programming) **const car = {type:"Fiat", model:"500", color:"white"};**
 7. **Symbol (new):** token that serves as unique IDs **var symbol1 = Symbol("prop");**

JavaScript Data Types

Objects

- What are the objects?
- How many objects are in this image?
- What are the object properties (“object literals”)?

```
▼ {  
  "message": "success",  
  ▼ "people": [  
    ▼ {  
      "name": "Cai Xuzhe",  
      "craft": "Tiangong"  
    },  
    ▼ {  
      "name": "Chen Dong",  
      "craft": "Tiangong"  
    },  
    ▼ {  
      "name": "Liu Yang",  
      "craft": "Tiangong"  
    },  
  ],  
}
```


Accessing Data with JavaScript

JavaScript Dot Notation

- Basic syntax: `object[index].property;`
- Note: property is also called “object literal”
- If an object is nested in another object:

`object.object[index].property;`

- Accessing APIs:
 - Public API or API key: Use fetch
 - Download JSON (JavaScript Object Notation) file or other data file

Putting it all together

Who is in Space?

Refer to resources folder “who is in space”

AMERICAN ARTIST

WORKS

PRESS

ABOUT



Photo: Myles Loftin

AMERICAN ARTIST makes thought experiments that mine the history of technology, race, and knowledge production, beginning with their legal name change in 2013. Their artwork primarily takes the form of sculpture, software, and video. Artist is a 2022 Creative Capital and United States Artists grantee, and a recipient of the 2021 LACMA Art & Tech Lab Grant. They are a resident at Smack Mellon in Brooklyn and a former resident of Red Bull Arts, Abrons Art Center, Recess, EYEBEAM, Pioneer Works, and the Whitney Museum Independent Study Program. They have exhibited at the Whitney Museum of American Art; MoMA PS1; Studio Museum in Harlem; Museum of Contemporary Art Chicago; Kunsthalle Basel, Switzerland; and Nam June Paik Center, Seoul. They have had solo museum exhibitions at The Queens Museum, New York and The Museum of African Diaspora, California. Their work has been featured in the New York Times, Artforum, and Huffington Post. Artist is a co-director of the School for Poetic Computation and a faculty at Yale.

INSTAGRAM

CV (PDF)

EMAIL ME

Check out the email on American Artist's website