

CS253: Software Development

Welcome to Lecture 3!

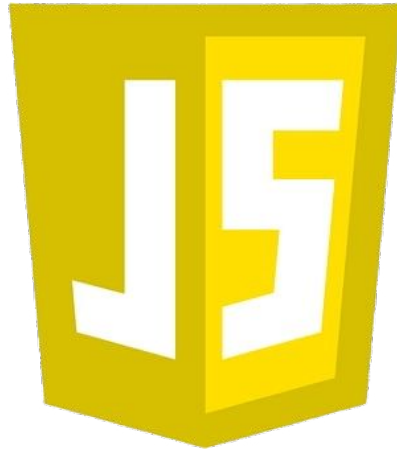
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Announcements

- Last week: we have a class website!
<https://www.danielwillgeorge.com/cs253>
- We have a TA! Anna Sheaffer
- Please sign up for Piazza as soon as you are able
- We will have Assignment 1 out this week (it will focus on small coding exercises in Python and Javascript)
- I do have an iwu.edu email but it can't seem to receive email just yet, so keep sending to my Gmail address (the website is correct)
- Today/this week: introduce Javascript
- What are your questions?

Javascript (front-end programming)



Intro to Javascript

- Invented by Brendan Eich while at Netscape in 1995
- called "Mocha" and later "LiveScript"
- Key language as the Internet was being developed

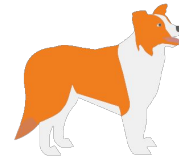
Intro to Javascript

- Static vs. Dynamic Languages
 - Has to do with (among other things) how variables are treated at runtime (when the code is actually run by the computer); also garbage collection
 - **Dynamic** - Python, “vanilla” Javascript
 - **Static** - Typescript (invented at Microsoft in 2012)

“Vanilla” Javascript: `var fruit = “apple”;`

Typescript: `string fruit = “apple”;`

Get curious! What are pros/cons of each?



Intro to Javascript

- While loop

```
var i = 0;
var result = 0;
while (i < 10){
    result += i;
    i++;
}
return result;
```

Intro to Javascript

- If statement

```
const cs253IsFun = true;
if (cs253IsFun) {
    console.log("woo!");
}
```

Intro to Javascript

- For loops

```
var result = 0;
for (var i = 0; i < 10; i++){
    result += i;
}
return result;
```


Intro to Javascript

- Functions

```
function addNum(x) {  
    var sum = x + 10;  
    return sum;  
}
```

Intro to Javascript

- Assignment and Comparison
== operator vs. =
- Boolean operators
&&, !, ||

Intro to Javascript

- Strings

```
var s = "Illinois Wesleyan";  
var slicedSubstring = s.substring(4, 8);  
// "nois"
```

Intro to Javascript

- Arrays

```
const animals = ["quokka", "dikdik",  
"axolotl"]
```

- Objects

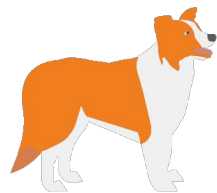
```
const daniel = {"location": "Los Angeles",  
"eye color": "blue"}
```

- Sorting

```
const nums = [1, 9, 6, 7, 5, 4, 2, 3, 0, 8]  
nums.sort()  
// [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

Practice

What are your questions?



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Thank you!