CS355 - Course Intro

Date: January 26, 2026

JavaScript Overview:

- JavaScript is:
    - Multi-paradigm
    - Procedural
    - Functional
    - Event-driven
    - Object-oriented
    - Weakly typed
- JavaScript can be considered more object-oriented than Java
- Creating an object in JavaScript (without having to create a class):

```
let myfraction = {
    num: 3,
    den: 4,
    toDecimal: function() { return this.num / this.den }
};
```

Compiled vs Interpreted Languages

- Compiled Languages (C, C++, Rust, ...)
    - Source code -> Compile -> Machine Code -> Executable -> Run -> Output
- Intepretted Languages (Python, PHP, ...)
    - Source Code -> Interpreter -> Output
- Compiled languages tend to be faster because:
    - Compiler optimizations such as (loop unraveling, dead code elimination, ...)
    - The compilation is slow because of these optimization BUT because of it, the code can RUN fast
- JavaScript is both compiled AND interpreted
    - The JavaScript engine (v8) has a JavaScript interpreter (Ignition) and a JavaScript compiler (Turbofan)