## Introduction

CS 350

Dr. Joseph Eremondi

Last updated: July 2, 2024

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# **Course Overview**

### To learn:

• Functional programming

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  - Recursion

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- To change how you think about programming

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 2nd edition, by Shriram Krishnamurthi

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  - Announcements

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  - EXCEPTION: when you can't ask your question without revealing your solution to the assignment

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- 25% midterm

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  - But ultimately it's your responsibility to catch up on missed material

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Doing the assignments is the best way to study

**Motivation: Functional** 

**Programming** 

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(probably)

# **Future Proofing**

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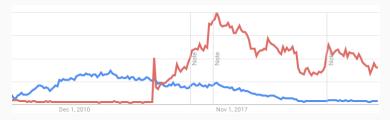
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## **Future Proofing**

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  - If you know how languages work, you can learn any language quickly
  - o Racket is effective for learning how languages work

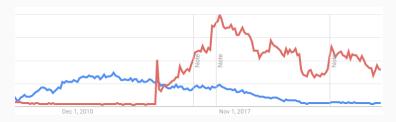
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### **Objective C vs Swift**

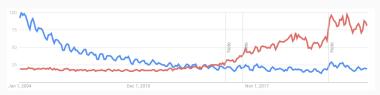


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#### C++ vs Python



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# **Functional Programming Going Mainstream?**

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- Learning these features in Racket will help if/when they show up in other languages in the future

# **Motivation: Interpreters**

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    - · Python, JavaScript, JVM all use some kind of interpreter
    - . The CPU is just an interpreter for machine code

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  - How to prevent/properly handle errors
  - How to know that it's doing what you think it does

Why interpreters are hard

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 By the end if this course, you will be able to write a program that is powerful enough to simulate every other computer program that ever has or ever will be written

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• It's just a bunch of tree traversals