

# **CSE 230**

## **Programming**

## **Languages**

# ZOOM 101

**Please “mute” your Mic**

By default, unless I call on you

**If you have a question**

“raise hand” or type question in chat

**Lectures split into ~ 3-4 segments**

~15 mins “lecture” + ~5 mins “exercise”



**Tony Hoare**

**Turing Award Lecture 1980**

***“There are two ways of constructing software.  
One way is to make it so simple,  
that there are obviously no deficiencies,  
The other way is to make it so complicated  
that there are no obvious deficiencies.”***

**Goal: Obviously No Deficiencies**

**Readable**

**Goal: Obviously No Deficiencies**

**Reusable**

**Goal: Obviously No Deficiencies**

**Modifiable**

**Goal: Obviously No Deficiencies**

**Predictable**

**Goal: Obviously No Deficiencies**

***Checkable***



**Goal: Obviously No Deficiencies**

**Yes, but how?**

**Goal: Obviously No Deficiencies**

**Functional Programming(?)**

# **Functional Programming ?**

**No Assignment.**

**No Mutation.**

**No Loops.**

**So, Who Uses FP ?**

**PL Researchers.**

# Functional Programming ?

**Readable**  
**Reusable**  
**Modifiable**  
**Predictable**  
**Checkable**

} **Parallelizable**

**So, Who Uses FP ?**

The Google logo, featuring the word "Google" in its characteristic multi-colored font (blue, red, yellow, blue, green, red).

**MapReduce**

**So, Who Uses FP ?**

Google



TensorFlow

So, Who Uses FP ?



***Microsoft***<sup>®</sup>

**F#**



**So, Who Uses FP ?**



twitter

**Scala**

**So, Who Uses FP ?**

**facebook**

**Erlang**

**So, Who Uses FP ?**



**Erlang**

**So, Who Uses FP ?**

**CSE 230**

# CSE 230: Medium of Instruction



# Why Haskell ?

**Bleeding edge PL.**

**Why Haskell ?**

**Beautiful.**

**Why Haskell ?**

**Blows Your Mind.**



# Why Haskell ?



**Alan Perlis**

**Epigrams In Programming**

***“A language that doesn't affect how you think about programming, isn't worth knowing”***

# Why Haskell ?

**Fun.**

# CSE 230 : Outline

**Readable**  
**Reusable** } **1. FP & Abstraction**

**Modifiable**  
**Predictable**  
**Checkable** } **2. Types & Analysis**

# CSE 230 : Webpage

**All materials (lectures, assignments, piazza) at:**

**<https://ucsd-cse230.github.io/fa21>**

**Please sign yourselves up at PIAZZA**

# **CSE 230 : Lectures on Zoom**

**Recordings available on CANVAS**

**Each lecture is about 3-4 segments**

- ~15 mins “RJ: lecture/Q&A”**
- ~5 mins “You: exercise”**

# **CSE 230 : Grading**

**[70%] : 4~5 Programming Assignments**

**[30%] : Final Project**

**[5%] : Extra Credit for top-15 Piazzars**

