A Short Intro to Go

CS 240 - Fall 2018 Rec. 1

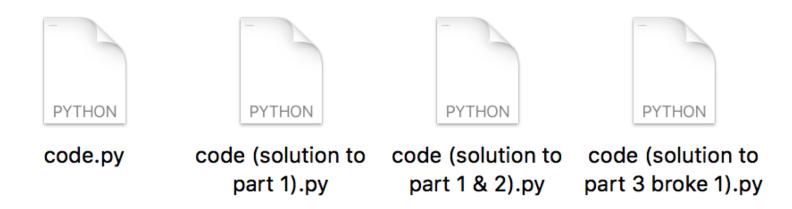
Some Housekeeping

- Make sure you are on Piazza
- Come to OH if you can't install Go
- Start Assignment 1
- Let us know on the Piazza poll if this recitation is too basic or advanced

Basic Advanced

You're not a Business Major

Stop Saving File Versions Like this:



You're a CS Major - Use Git

COMMAND WHAT IT DOES

git init Start recording changes in this directory

git add Include this file in the next snapshot

git commit Take a snapshot (commit)

git reset Go back to the last snapshot (commit)

git checkout a Go to snapshot a

Resources to Learn Git:

https://try.github.io/

Course website (Assignments):

http://web.kaust.edu.sa/Faculty/MarcoCanini/classes/CS240/F18/assignments.html

DEMO?

What's this Weird Language I've Never Heard of?

"Go is a
compiled,
concurrent,
statically typed,
garbage-collected
language developed at Google"

- Rob Pike, 2012

What's this Weird Language I've Never Heard of?

compiled concurrent statically typed garbage-collected

Like C, C++

Like Erlang

Like C, C++, Java

Like Java and Python

Why Not Use Python, Java, C++, etc?

Built for Systems.

Go preserves efficiency but has good abstractions.

Easy multi threading and IO communication.

Develop quickly
Do many things efficiently and at the same time

Seems Google Specific. Who Else Actually Uses it?

UBER

How We Built Uber Engineering's Highest Query per Second Service Using Go

By Kai Wei



Handling five billion sessions a day – in real time

By @edsolovey







Why did they Choose Go?

"We built everything in Python because it was easy, but now it's **slow**. So we switched to Go."

- Most companies using Go

But How do I Use Go?

Start here:

https://tour.golang.org/list

Didn't install Go? Use the web IDE:

https://play.golang.org/

Other Resources:

Go for Pythonists https://talks.golang.org/2013/go4python.slide#1

Go for Distributed Systems https://talks.golang.org/2013/distsys.slide#1

Official Go Talks
https://github.com/golang/go/wiki/GoTalks

But How do I Use Go?

DEMO

What About Object in Go?

DEMO



Build Software for Any System

go build file.go
Compile an executable for your machine

env GOOS=windows GOARCH=amd64 go build file.go Compile an executable for Windows with 64 bit processor

DEMO?

Format your Code

COMMAND

go fmt file.go

WHAT IT DOES

Format the file.go properly

DEMO

Wait, I Have Questions!

Go's official "Frequently Asked Questions (FAQ)"

https://golang.org/doc/faq

Some Advice for the Assignments

FOCUS



- Write modular code
- Use comments (even to yourself)
- Don't forget go fmt (graded)
- The clearer your code is, the more we can help with bugs