A Short Intro to Go

CS 240 – Fall 2019 Rec. 1 Sep. 3rd

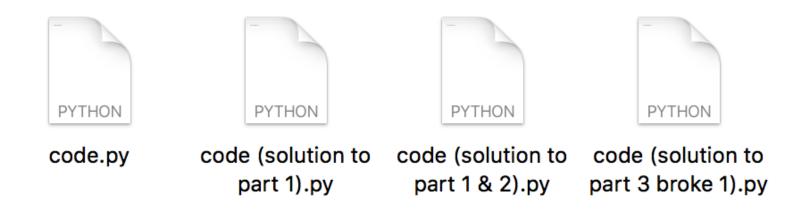
Some Housekeeping

- 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



You're not a Business Major

Don't Save File Versions Like this:



You're a CS Major – Use Git

COMMAND

- git init git add git commit git reset
- git checkout a

WHAT IT DOES

Start recording changes in this directory Include this file in the next snapshot Take a snapshot (commit) Go back to the last snapshot (commit) Go to snapshot a

Resources to Learn Git: https://try.github.io/

Course website (Assignments):

http://web.kaust.edu.sa/Faculty/MarcoCanini/classes/CS240/F19/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

Rob Pike is the Jeff Dean of distributed systems. Here's the article the quote is from: https://talks.golang.org/2012/splash.article

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

Tuesday, 17 February 2015 🍯 f in 🔗



Official Self Reported List of Companies that use Go: https://github.com/golang/go/wiki/GoUsers

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 <u>https://talks.golang.org/2013/go4python.slide#1</u>

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

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

But How do I Use 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

Format your Code

COMMAND

go fmt file.go

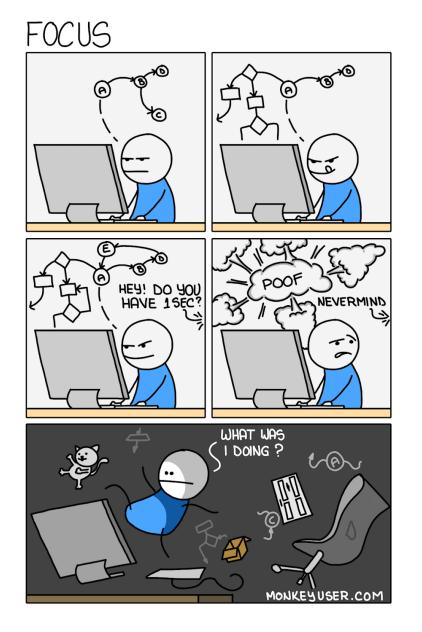
WHAT IT DOES Format the file.go properly

DEMO

Wait, I Have Questions!

Go's official "Frequently Asked Questions (FAQ)" https://golang.org/doc/faq

Some Advice for the Assignments



- 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