

CompSci 2SD3

Tutorial #9

TA: Jatin Chowdhary

DATE: March 29th, 2022

Announcements (1)

- Assignment #1 marks are out
 - If there is any issue, shoot me an email!
 - Most of y'all did not take it seriously
 - Assignment #1 is the freebie
- Marking took longer than expected
 - Issues with uploading
 - System kept returning an error
 - Leaving detailed feedback is time consuming

Announcements (2)

- Assignment #2, #3 should be quicker to mark
 - Assignments are easier
 - Skeleton files tell you exactly what to do
 - No more issues with uploading marks
- Assignment #4 is about GO
 - Requirements are the same as Assignment #4, but instead of programming in C, you will program in GO

Outline

- GO
 - Introduction
 - Basics
 - Comments
 - *Identical to C*
 - Variables
 - Conditionals
 - Concurrency

Introduction To GO (1)

- GO
 - Also referred to as GoLang
 - Because of former domain name golang.org
 - Statically typed
 - Compiled
 - Not to be confused with interpreted
 - Examples of other compiled languages:
 - Java
 - C
 - Syntax is similar to C
 - Not really

Introduction To GO (2)

- Benefits of using GO:
 - Memory safety
 - Garbage collection
 - *Just like Java*
 - Structural typing
 - *Just like Haskell*
 - CSP-style concurrency
 - Most important feature; at least for our use case
 - *Translation: Creating a multi-threaded program is easier than ever before!*

Other Stuff

- Other stuff you may or may not want to know:
 - Designed at Google
 - Designed by:
 - Robert Griesemer
 - Rob Pike
 - Ken Thompson
 - *Hold on, where have we heard this name before?*
 - *Hint: Bell*
 - Multi-paradigm
 - But everyone focuses on object oriented (OOP)

Programming Time

- Create an (obligatory) Hello World program
 - Step-by-step and piece it together
 - *i.e. ex1.go*
1. Add package statement
 2. Start importing
 3. Define main
 4. Print hello world

Running Time

- Running GO programs (or code) is weird
 - GO allows us to compile and run code in one step
 - i.e. *go run XXX*
 - But if we can also just compile and not run
 - i.e. *go build XXX*
- GO has its own set of non-traditional man pages
 - Translation: No manual entry for GO
 - Command is: *go help*
 - Question: What does *go clean* do?

Programming (1)

- Data Types In GO
- Variables & Constants
- Operators
 - Mathematical
 - *i.e. Add, subtract, multiply, etc.*
 - Relational
 - *i.e. Equals to, not equals to, less than, etc.*
 - Logical
 - *i.e AND, OR, NOT, etc.*
 - Bitwise
 - *Don't worry about it*
- *Conditionals*
 - *i.e. if, else, for, etc.*
- *Note: Other than variables, everything else is identical to C*

THE

END