Learn by Doing

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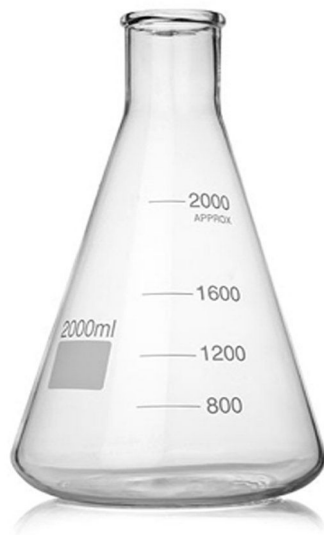# Overview

- Presentation Format
- Hello World!
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Presentation Format

- Try a new experiment
- Code examples plus discussion
- Iterate
- I'll ask for feedback at the end of the presentation
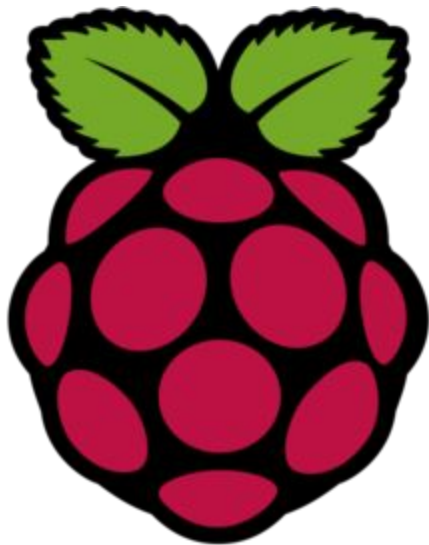
Hello World

Summary

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Possible Future Discussions

- Python Click for CLI tools
- Python Fire for CLI tools
- Containers / Docker / Kubernetes
- Idiomatic Python

VicPiMakers and Others Slack

- Please let us know if you want an invite to this Slack group

Backup Slides

Go Design Inspirations

- Designed as a next-generation C
- Borrows some syntax from C
- Borrows from Pascal, Modula, and Oberon
- Attempts to reduce the amount of typing

Go Essential Characteristics

- Compiled, statically typed language
- Compiled executables are operating system to an operating system
- Illusion of an interpreted language, but there is an executable intermediate
- Compiled applications contain a statically-linked run-time
- No virtual-machine (unlike Java)

Is Go Object-Oriented?

- Has some OOP features
- Can define custom interfaces
- Can define types with member methods
- Can define structs with member fields

Not Supported in Go

- No type inheritance
- No method or operator overloading
- No structured exception handling
- No implicit numeric conversions

Syntax Rules

- Go is case sensitive
- Variables and package names are in lowercase and mixed case
- Initial character in public field names are uppercase
- Initial uppercase character means symbol is exported
- No semicolons required, but you can use them

Syntax Rules - Braces

- Code blocks are wrapped with braces
- Starting brace MUST BE on the same line as preceding statement

```
for i := 0; i < 10; i++ {

    fmt.Println(i)

}
```

Built-In Functions

- **Link**: https://golang.org/pkg/builtin
- Go compiler assumes builtin package is always imported
- **Examples:**
- len(string) - return string length
- panic(error) - stops execution and displays error message
- recover() - manages behavior of a panicking go routine

Golang.org

- **Link**: https://golang.org
- Try the Go language playground on the homepage
- Also try the full page version on https://play.golang.org
  - See code samples listed
- **Downloads:** https://golang.org/dl/