Lab1

NYCU Go Programming 2024

2024/09/10

Variable Declarations

- var variable [type]
- var v1, v2, v3 [type]
- var (

  v1 [type]
  V2, v3 [type]

)

with initializers

- var variable [type] = [value]

- var v1, v2 = [value1], [value2]

the zero value

- false for booleans

- 0 for numeric types

- "" for strings

- nil for pointers

short variable declarations

- variable := [value]

- v1, v2 := [value1], [value2]

Types

- **bool**: true, false

- **int, int8, int16, int32, int64**: -1, 123

- **uint, uint8, uint16, uint32, uint64**: 0, 123

- **float32, float64**: -0.01, 3.14

- **byte** (alias for uint8): 'A'

- **string**: "Hello world"

Function Declarations

```
func function(p1 [type], …) [type] {
    // statements

    return r
}
```

Supplement: Modules

- A module is a collection of related Go packages

- go.mod: module name / go version / dependencies
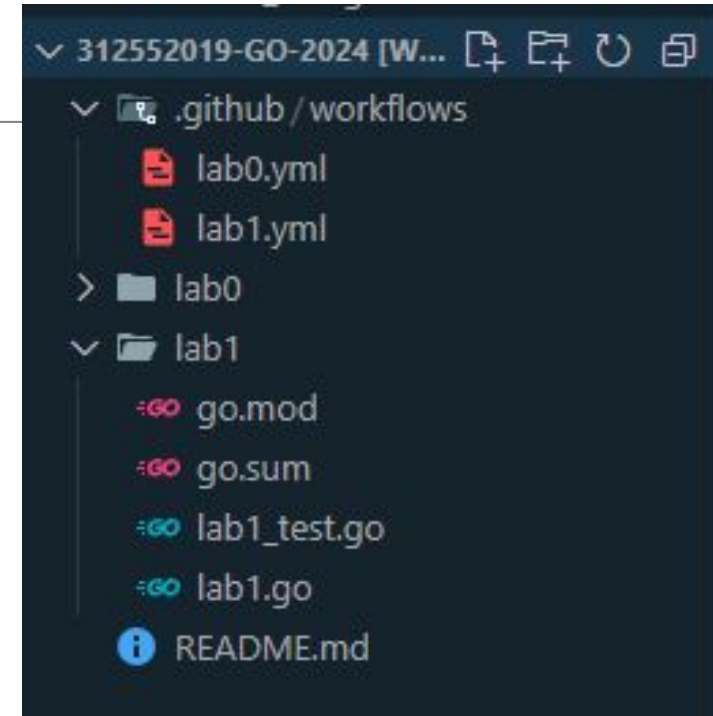
- go.sum

- Code organization

Supplement: Packages

- Executable: package main (with function main)

- Only 1 package in 1 directory (possibly multiple files)

- Package directory should be the same as package name.

- Importing packages
  - from standard library: `import [package]`
  - inside the module: `import [module name]/[package directory]`
  - from remote modules: `import github.com/[account]/[repo]/[package directory]`

Lab1 Broken Calculator

1. 新增 lab1 的目錄 - `$mkdir lab1`

2. 移動至 lab1 - `$cd lab1`

3. `$go mod init lab1`

4. 加入 lab1.go 與 lab1_test.go

5. 完成 lab1.go 中的四則運算函數(Add/Sub/Mul/Div)

6. `$go mod tidy`

7. `$go run .`

8. `$go test`

9. 在 .github/workflows 裡面加入 lab1.yml

10. 上傳至 GitHub 並繳交連結

題目：AxelHowe/NYCU-GoProgramming-2024 (github.com)

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← lab1

✅ **feat: finish lab1** #1

Re-run all jobs ⋯

🏠 Summary

Jobs

✅ build

Run details

⏱ Usage

🔗 Workflow file

build
succeeded 9 minutes ago in 33s

Search logs 🔄 ⚙

> ✅ Set up job   1s
> ✅ Run actions/checkout@v4   1s
> ✅ Run actions/setup-go@v4   8s
∨ ✅ Run   21s

```
1   ▶ Run go test
4   go: downloading github.com/stretchr/testify v1.9.0
5   go: downloading github.com/davecgh/go-spew v1.1.1
6   go: downloading github.com/pmezard/go-difflib v1.0.0
7   go: downloading gopkg.in/yaml.v3 v3.0.1
8   PASS
9   ok      lab01   0.004s
```

> ✅ Post Run actions/setup-go@v4   0s
> ✅ Post Run actions/checkout@v4   0s
> ✅ Complete job   0s