

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

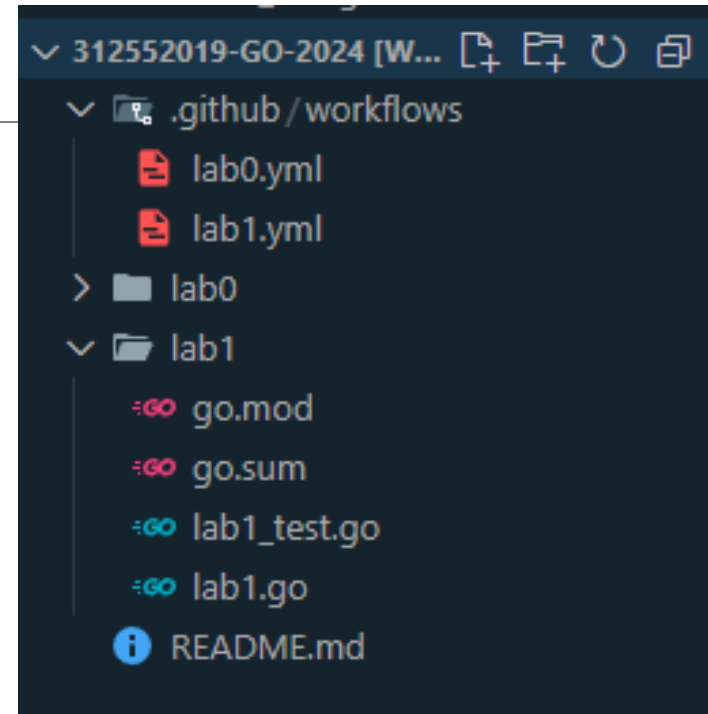
Supplement: Packages

- 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 \(github.com\)](https://github.com/AxelHowe/NYCU-GoProgramming-2024)



```
axelhowe@DESKTOP-85LD9SI:/mnt/c/Users/USER/Desktop/312552019-Go-2024/lab1$ go test
PASS
ok      > 大綱 lab01      0.002s
axelhowe@DESKTOP-85LD9SI:/mnt/c/Users/USER/Desktop/312552019-Go-2024/lab1$ 
[4] 0:bash*
```

[← 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