Lab2

NYCU Go Programming 2024

2024/10/01

Comparison operators

`==`	equal
`!=`	not equal
`<`	less
`<=`	less or equal
`>`	greater
`>=`	greater or equal

Logical operators

&&	conditional AND	p && q	is	"if p then q else false"
||	conditional OR	p || q	is	"if p then true else q"
!	NOT	!p	is	"not p"

If statements

```
if [Condition 1] {

    // Statements 1

} else if [Condition 2] {

    // Statements 2

} else {

    // Statements 3

}
```

Switch statements

```
switch [Expression] { // Expression switches

case [Expression 1]:

    // Statements 1

case [Expression 2]:

    // Statements 2

default:

    // Statements

}

// A missing switch expression is equivalent to the boolean value true.

//  the last non-empty statement may be a "fallthrough" statement to indicate that control

should flow from the end of this clause to the first statement of the next clause.
```

For statements

```
for [Condition] {
    // If the condition is absent, it is equivalent to the boolean value true.
    // Statements
}
for [Init statement]; [Condition]; [Post statement] {
    // Statements
}
for i, x := range arr {
    // Statements
}
```

Break statements / Continue statements

break / break [Label]

continue / continue [Label]

goto [Label]

Examples

```
arr := []int64{0, 1, 3, 0, 2}

cnt := function(arr) // 5
```

Examples (Cont.)

```
func function(arr []int64) int64 {
// count the number of subarray that the only 0 is in the beginning
    var cnt int64
    Outerloop:
    for i, x := range arr {
        if x != 0 {
            continue
        }
        cnt++
```

Examples (Cont.)

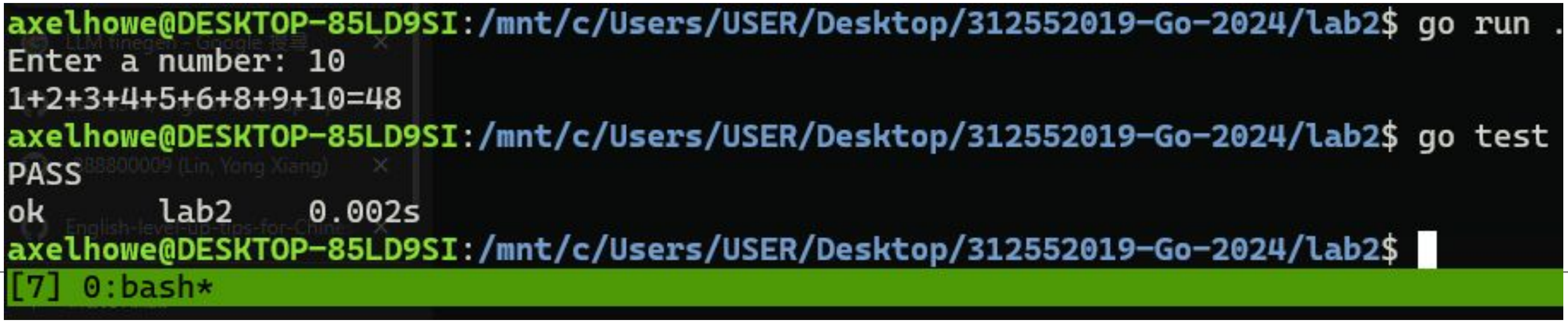
```
        for j := i + 1; j < len(arr); j++ {
            if arr[j] == 0 {
                continue Outerloop
            }
            cnt++
        }
    }
    return cnt
}
```

Lab2 Sum and print it all

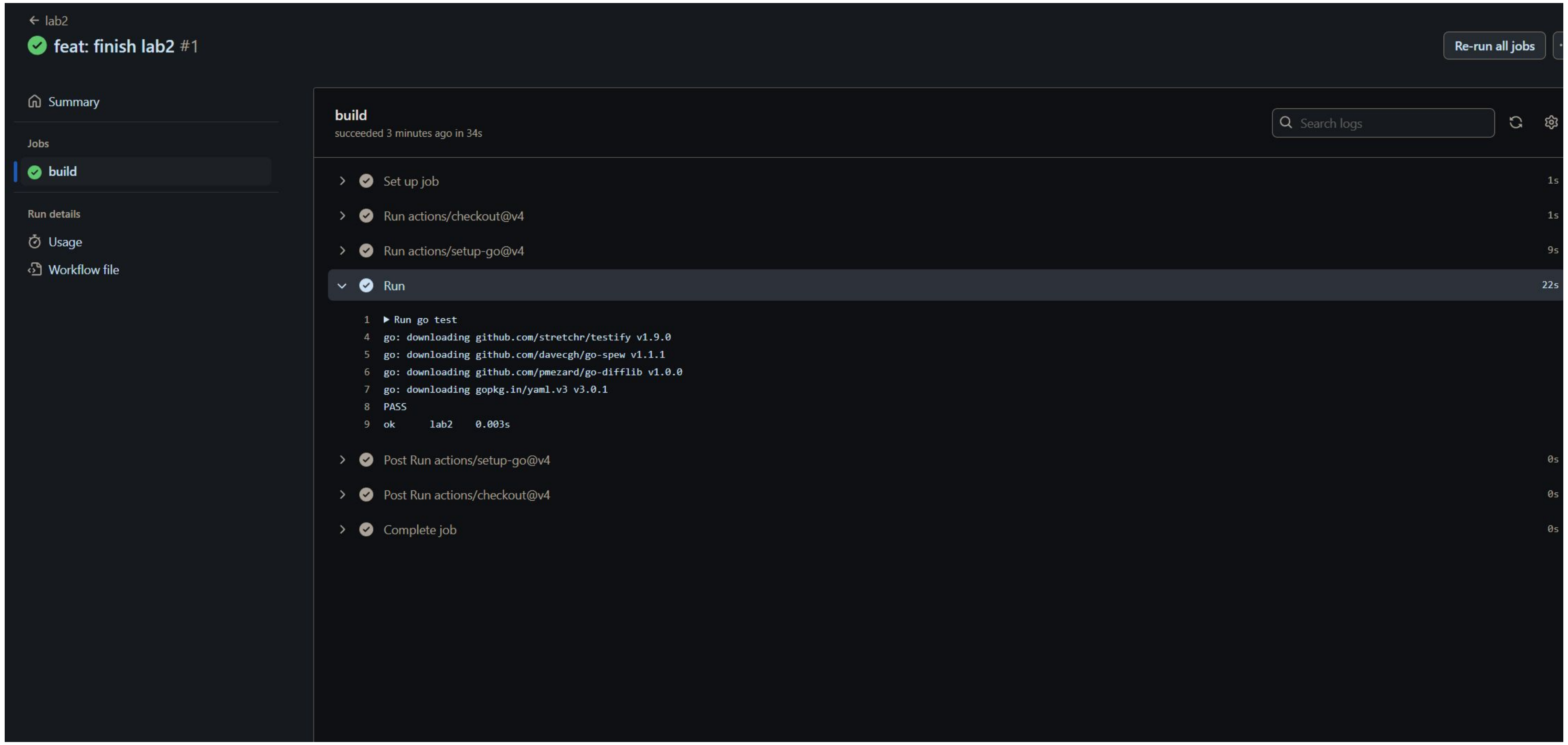
1. 新增目錄 lab2 - `$mkdir lab2`
2. 移動至 lab2 - `$cd lab2`
3. `$go mod init lab2`
4. 加入 lab2.go 與 lab2_test.go
5. 完成 lab2.go 中的函數 Sum()(所有不大於 n 且不為 7 倍數的正整數和)
6. `$go mod tidy`
7. `$go run .`
8. `$go test`
9. 在 .github/workflows 裡面加入 lab2.yml
10. 上傳至 GitHub 並繳交連結

Hint:

- fmt.Sprintf()
- strconv.Itoa()



```
axelhowe@DESKTOP-85LD9SI:/mnt/c/Users/USER/Desktop/312552019-Go-2024/lab2$ go run .
Enter a number: 10
1+2+3+4+5+6+8+9+10=48
axelhowe@DESKTOP-85LD9SI:/mnt/c/Users/USER/Desktop/312552019-Go-2024/lab2$ go test
PASS
ok      lab2    0.002s
axelhowe@DESKTOP-85LD9SI:/mnt/c/Users/USER/Desktop/312552019-Go-2024/lab2$ 
[7] 0:bash*
```



build
succeeded 3 minutes ago in 34s

- Set up job 1s
- Run actions/checkout@v4 1s
- Run actions/setup-go@v4 9s
- Run 22s

```
▶ Run go test
go: downloading github.com/stretchr/testify v1.9.0
go: downloading github.com/davecgh/go-spew v1.1.1
go: downloading github.com/pmezard/go-difflib v1.0.0
go: downloading gopkg.in/yaml.v3 v3.0.1
PASS
ok      lab2    0.003s
```

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