

Software Maintenance, ESOF 326, Spring 2020
Due Jan. 31, beginning of class

1. Create a ‘hello world’ program in Go at the default location of your GOPATH (probably C:\Users\{your account}\go. Place it into the source directory, ‘src’.

```
package main

import (
    "fmt"
)

/* Print hello */
func main() {
    fmt.Println("Hello world!")
}
```

2. Once you know the program works, install it (‘go install’) and see that its executable appears in the binary directory ‘bin’. Run the program using the executable.
3. Create the package ‘morestrings’ which contains the following code. Import this package and, in the main() function, replace the call:

```
Println("Hello world!")
to
Println(morestrings.ReverseRune("Hello world!"))

// Package morestrings implements additional functions to manipulate UTF-8
// encoded strings, beyond what is provided in the standard "strings" package.
package morestrings
```

```
//ReverseRunes returns its argument string reversed run-wise left to right.
func ReverseRunes(s string) string {
    r := []rune(s)
    for i, j := 0, len(r)-1; i < len(r)/2; i, j = i+1, j-1 {
        r[i], r[j] = r[j], r[i]
    }
    return string(r)
}
```

4. Create a second package ‘moregreetings’ that randomly chooses greetings, aside from “Hello world!” (or “Hello world!” backwards) and displays those greetings, backwards.

You do not need to turn in your work. Instead, I’ll give a quiz Friday on the code, to see how well you understand it.

This comes from Golang documentation, How to Write Go Code,
<https://golang.org/doc/code.html>

Sample code:

```
package main

import (
    "assignment3/moregreetings"
    "assignment3/morestrings"
    "fmt"
)

/* Print hello */
func main() {
    fmt.Println(morestrings.ReverseRunes(moregreetings.RandomGreeting()))
}
```

```
// Package morestrings implements additional functions to manipulate UTF-8
// encoded strings, beyond what is provided in the standard "strings" pack
// age.
package morestrings

//ReverseRunes returns its argument string reversed run-
//wise left to right.
func ReverseRunes(s string) string {
    r := []rune(s)
    for i, j := 0, len(r)-1; i < len(r)/2; i, j = i+1, j-1 {
        r[i], r[j] = r[j], r[i]
    }
    return string(r)
}
```

```

// Package moregreetings randomly chooses from a selection
// of backwards greetings
package moregreetings

import (
    "math/rand"
    "time"
)

//RandomGreeting returns a string which is a backwards greeting.
func RandomGreeting() string {
    var s [5]string
    // Nice day!
    s[0] = "!yad eciN"
    // Nice going!
    s[1] = "!gniog eciN"
    // Cheers!
    s[2] = "!sreehC"
    // Nice!
    s[3] = "!eciN"
    // Be seeing you.
    s[4] = ".uoy gniees eB"

    rand.Seed(time.Now().UnixNano())
    return s[rand.Intn(5)]
}

```