

Return a random greeting - The Go Programming Language

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In this section, you'll change your code so that instead of returning a single greeting every time, it returns one of several predefined greeting messages.

To do this, you'll use a Go slice. A slice is like an array, except that its size changes dynamically as

you add and remove items. The slice is one of Go's most useful types.

You'll add a small slice to contain three greeting messages, then have your code return one of the messages randomly. For more on slices, see [Go slices](#) in the Go blog.

1. In `greetings/greetings.go`, change your code so it looks like the following.

```
package greetings

import (
    "errors"
    "fmt"
    "math/rand"
)

// Hello returns a greeting for the named person.
func Hello(name string) (string, error) {
    // If no name was given, return an error with a message.
    if name == "" {
        return name, errors.New("empty name")
    }
    // Create a message using a random format.
    message := fmt.Sprintf(randomFormat(), name)
    return message, nil
}
```

```
// randomFormat returns one of a set of greeting messages. The
// returned
// message is selected at random.
func randomFormat() string {
    // A slice of message formats.
    formats := []string{
        "Hi, %v. Welcome!",
        "Great to see you, %v!",
        "Hail, %v! Well met!",
    }

    // Return a randomly selected message format by specifying
    // a random index for the slice of formats.
    return formats[rand.Intn(len(formats))]
}
```

In this code, you:

- Add a `randomFormat` function that returns a randomly selected format for a greeting message. Note that `randomFormat` starts with a lowercase letter, making it accessible only to code in its own package (in other words, it's not exported).
- In `randomFormat`, declare a `formats` slice with three message formats. When declaring a slice, you omit its size in the brackets, like this: `[]string`.

This tells Go that the size of the array underlying the slice can be dynamically changed.

- Use the [math/rand package](#) to generate a random number for selecting an item from the slice.
- In `Hello`, call the `randomFormat` function to get a format for the message you'll return, then use the format and `name` value together to create the message.
- Return the message (or an error) as you did before.

2. In `hello/hello.go`, change your code so it looks like the following.

You're just adding Gladys's name (or a different name, if you like) as an argument to the `Hello` function call in `hello.go`.

```
package main

import (
    "fmt"
    "log"
```

```
    "example.com/greetings"
)

func main() {
    // Set properties of the predefined Logger, including
    // the log entry prefix and a flag to disable printing
    // the time, source file, and line number.
    log.SetPrefix("greetings: ")
    log.SetFlags(0)

    // Request a greeting message.
    message, err := greetings.Hello("Gladys")
    // If an error was returned, print it to the console and
    // exit the program.
    if err != nil {
        log.Fatal(err)
    }

    // If no error was returned, print the returned message
    // to the console.
    fmt.Println(message)
}
```

3. At the command line, in the hello directory, run `hello.go` to confirm that the code works. Run it multiple times, noticing that the greeting changes.

```
$ go run .
Great to see you, Gladys!

$ go run .
Hi, Gladys. Welcome!
```

```
$ go run .  
Hail, Gladys! Well met!
```

Next, you'll use a slice to greet multiple people.

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