Go Basics

Let’s jump straight to some code:

package main

import "fmt"

func main() {

fmt.Println("Hello, Chinese letter")

}

* Go is a compiled language. The Go toolchain converts a source program and the things it depends on into instructions in the **native machine language of a computer**.
* These tools are accessed through a single command called go that has a number of subcommands.
* The simplest of these subcommands is **run, which compiles the source code from one or more source**

**files whose names end in .go, links it with libraries, then runs the resulting executable file.**

$ go run **helloworld.go**

Hello, Chinese letter

* Go natively handles Unicode, so it can process text in all the world’s languages.

If the program is more than a one-shot experiment, it’s likely that you would want to compile

it once and save the compiled result for later use. That is done with go build:

$ go build helloworld.go

**This creates an executable binary file called helloworld that can be run any time without further**

**processing:**

**$ ./helloworld**

**Hello, Chinese letter**

* Go code is organized into packages, which are similar to libraries or modules in other languages.
* A package consists of **one or more .go** source files **in a single directory** that **define what the package does.**
* Each source file:
  + begins with a package declaration, here package main, that states **which package the file belongs to**
  + followed by a list of other packages that it imports
  + and then the declarations of the program that are stored in that file.
* The Go **standard library** has over 100 packages **for common tasks** like input and output, sorting, and text manipulation.
* For instance, the **fmt** package contains functions for **printing formatted output** **and scanning input**. Println is one of the basic output functions in fmt; it prints one or more values, separated by spaces, with a newline character at the end so that the values appear as a single line of output.

**Package main is special**. **It defines a standalone executable program**, **not a library.**

**Within package main the function main is also special**—**it’s where execution of the program begins**. **Whatever main does is what the program does.**

Of course, main will normally call upon functions in other packages to do much of the work, such as the function fmt.Println.