

## variables in go

In Go (Golang), variables are used to store data. Here's a breakdown of how you declare and use variables in Go:

## 1. Declaring Variables

### A. Using `var` Keyword

```
go
var name string
var age int
```

You can also initialize at the same time:

```
go
var name string = "Alice"
var age int = 30
```

### B. Type Inference

Go can infer the type from the value:

```
go
var city = "New York" // city is inferred as string
```

### C. Short Declaration (`:=`)

Only allowed inside functions:

```
go
country := "USA"
score := 95.5
```

## 2. Multiple Variable Declaration

```
go
var x, y, z int = 1, 2, 3
```

Or using short declaration:

```
a, b := 4, "hello"
```

## 3. Zero Values

If you declare a variable without initializing it, Go assigns a *zero value*:

Type	Zero Value
int	0
float64	0.0
string	""

bool `false`

pointer `nil`

Example:

```
go
var done bool // false
```

## ◆ 4. Constants

```
go
const Pi = 3.14
const Greeting = "Hello"
```

## ◆ 5. Variable Scope

- Variables declared outside functions are package-level (global within the package).
- Variables declared inside functions are local to that function.

Let me know if you want a hands-on example or explanation of global vs local scope, constants, or variable naming rules.

add some examples

Sure! Here are some practical examples of how variables are declared and used in Go:

### ✓ 1. Basic Variable Declaration

```
go
package main

import "fmt"

func main() {
    var name string = "John"
    var age int = 25
    fmt.Println("Name:", name)
    fmt.Println("Age:", age)
}
```

### ✓ 2. Type Inference

```
go
package main

import "fmt"

func main() {
```

```
func main() {  
    var city = "London" // Go infers string  
    var population = 8900000 // Go infers int  
    fmt.Println(city, "has population", population)  
}
```

### ✓ 3. Short Declaration (:=)



```
package main  
  
import "fmt"  
  
func main() {  
    country := "India"  
    code := 91  
    fmt.Println("Country:", country, "Code:", code)  
}
```

### ✓ 4. Multiple Variable Declaration



```
package main  
  
import "fmt"  
  
func main() {  
    var x, y, z int = 1, 2, 3  
    fmt.Println(x, y, z)  
  
    a, b := 5.5, "hello"  
    fmt.Println(a, b)  
}
```



### ✓ 5. Constants

```
go Copy Edit  
  
package main  
  
import "fmt"  
  
func main() {  
    const Pi = 3.14159  
    const Language = "Go"  
    fmt.Println("Pi:", Pi)  
    fmt.Println("Language:", Language)  
}
```



### ✓ 6. Zero Values (default values)

```
go Copy Edit  
  
package main  
  
import "fmt"  
  
func main() {  
    var number int  
    // ...  
}
```

```
var flag bool
var message string

fmt.Println("number:", number) // 0
fmt.Println("flag:", flag)     // false
fmt.Println("message:", message) // ""
}
```

Would you like to try writing a small Go program using variables on your own? I can help guide or review it for you.



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ChatGPT can make mistakes. Check important info.