

Variables

01

About Variables

02

Creating Variables

03

Comma, ok

04

Naming & Constants

Variables

- | Variables provide a way to store & access data in your program
 - | Data within can be anything/vary (variable)
 - | Alias to data in memory
 - | Storing data to a variable is called **assignment**
- | Variables have multiple components:
 - | Name
 - | Data (or lack thereof)
 - | Type

Single Creation

```
var example = 3
```

```
var example int = 3
```

```
var example int  
example = 3
```

Compound Creation

```
var a, b, c = 1, 2, "sample"
```

Block Creation

```
var (  
  a int = 1  
  b int = 2  
  c = "sample"  
)
```

Create & Assign

```
example := 3
```

```
a, b := 1, "sample"
```


Other

- | Variables can be reassigned & assigned to other variables:

a **::=** **1**

a **=** **2**

a **=** **3**

a **::=** **1**

b **::=** **a**

var **c** **=** **b**

- | Variable names can only be used once per scope:

a **::=** **1**

var **a** **=** **5**

Defaults

- | Variables that are declared but not assigned will automatically have a default value

```
var name string
```

- | String default: ""
- | Number default: 0
- | Other default: nil

Comma ok

- | "Comma, ok" idiom is a special case
- | Allows a variable to be reassigned in a creation statement

```
a := 1  
var a = 5
```

↑
Error!

```
a, b := 1, 2  
c, b := 3, 4
```

↑
Ok

```
x, err := //..  
y, err := //..  
z, err := //..
```

Naming

- | Go variable naming convention is camelCase:

```
myLongVariableName := "hi"
```

- | Use names appropriate for the data:

```
// Good  
totalGuests := 12
```

```
// Bad  
ttl := 12
```

Constants

- | Constants can be created using the **const** keyword
- | Useful when declaring some value that needs to be utilized throughout some or all of the program

```
const MaxSpeed = 30
```

```
const MinPurchasePrice = 7.50
```

```
const AppAuthor = "Bob"
```

Recap

- | Variables are a way to access memory locations using an alias
- | Multiple ways to create variables:
 - | Single, compound, block, create & assign
- | Variables can be assigned to other variables
- | Variables names can only be used once per scope
- | Variables declared, but not assigned to, will have a default value
- | "Comma, ok" idiom allows you to reuse the second variable