

## ☰ Documentation

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API Collection

# Numbers and Basic Values

Model data with numbers, Boolean values, and other fundamental types.

## Topics

### Logical Values

`struct Bool`

A value type whose instances are either `true` or `false`.

### Numeric Values

`struct Int`

A signed integer value type.

`struct Double`

A double-precision, floating-point value type.

`struct Float`

A single-precision, floating-point value type.

### Ranges

`struct Range`

A half-open interval from a lower bound up to, but not including, an upper bound.

`struct ClosedRange`

An interval from a lower bound up to, and including, an upper bound.

## Errors

`protocol Error`

A type representing an error value that can be thrown.

`enum Result`

A value that represents either a success or a failure, including an associated value in each case.

## Optionals

`enum Optional`

A type that represents either a wrapped value or the absence of a value.

## Advanced Numerics

☰ Numeric Protocols

Write generic code that works with any numeric type.

☰ Special-Use Numeric Types

Work with fixed-width numeric types of different sizes.

☰ SIMD Vector Types

Work with fixed-width vectors of fixed-width numeric types of different sizes.

☰ Global Numeric Functions

Use these functions with numeric values and other comparable types.

## Random Number Generators

`struct SystemRandomNumberGenerator`

The system's default source of random data.

`protocol RandomNumberGenerator`

A type that provides uniformly distributed random data.

# See Also

## Values and Collections

- ☰ Strings and Text

Work with text using Unicode-safe strings.

- ☰ Collections

Store and organize data using arrays, dictionaries, sets, and other data structures.

- ☰ Time

Measure how long an operation takes and determine schedules in the future.