

[Foundation](#) / Numbers, Data, and Basic Values

API Collection

Numbers, Data, and Basic Values

Work with primitive values and other fundamental types used throughout Cocoa.

Topics

Numbers

`@frozen struct Int`

A signed integer value type.

`@frozen struct Double`

A double-precision, floating-point value type.

`struct Decimal`

A structure representing a base-10 number.

`class NumberFormatter`

A formatter that converts between numeric values and their textual representations.

Binary Data

`struct Data`

A byte buffer in memory.

`protocol DataProtocol`

A protocol that provides consistent data access to the bytes underlying contiguous and noncontiguous data buffers.

`protocol MutableDataProtocol`

A protocol that provides consistent data access to the bytes underlying contiguous and noncontiguous mutable data buffers.

protocol ContiguousBytes

A protocol that declares the type offers direct access to the underlying raw bytes in a contiguous manner.

URLs

struct URL

A value that identifies the location of a resource, such as an item on a remote server or the path to a local file.

struct URLComponents

A structure that parses URLs into and constructs URLs from their constituent parts.

struct URLQueryItem

A single name-value pair from the query portion of a URL.

Unique Identifiers

struct UUID

A universally unique value to identify types, interfaces, and other items.

Geometry

@frozen struct CGFloat

The basic type for floating-point scalar values in Core Graphics and related frameworks.

typealias NSPoint

A point in a Cartesian coordinate system.

typealias NSSize

A two-dimensional size.

typealias NSRect

A rectangle.

struct CGAffineTransform

A graphics coordinate transformation.

```
struct NSEdgeInsets
```

A description of the distance between the edges of two rectangles.

Ranges

```
typealias NSRange
```

A structure used to describe a portion of a series, such as characters in a string or objects in an array.

See Also

Fundamentals

- ☰ Strings and Text
 - Create and process strings of Unicode characters, use regular expressions to find patterns, and perform natural language analysis of text.
- ☰ Collections
 - Use arrays, dictionaries, sets, and specialized collections to store and iterate groups of objects or values.
- ☰ Dates and Times
 - Compare dates and times, and perform calendar and time zone calculations.
- ☰ Units and Measurement
 - Label numeric quantities with physical dimensions to allow locale-aware formatting and conversion between related units.
- ☰ Data Formatting
 - Convert numbers, dates, measurements, and other values to and from locale-aware string representations.
- ☰ Filters and Sorting
 - Use predicates, expressions, and sort descriptors to examine elements in collections and other services.