

# 2d. Strings

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## INTRODUCTION

This section presents types for text representation, distinguishing between characters and strings. The coverage will be concise, as the website won't focus on string analysis. However, a minimal coverage is necessary as string variables are important for tasks like specifying paths, saving files, and other core functionalities.

## CHARACTERS

In Julia, the `Char` type is used to represent individual characters. A character `x` is defined by using single quotes, as in `'x'`. Given its support for Unicode characters, `Char` encompasses not only numbers and letters, but also a wide range of symbols. This is shown below.

```
# x equals the character 'a'
x = 'a'

# 'Char' allows for Unicode characters
x = 'β'
y = '⌚'
```

Notice that characters must be enclosed in single quotes `' '`, even for symbols like `⌚`. Otherwise, Julia will interpret the expression as a variable.

```
# any character is allowed for defining a variable
⌚ = 2           # ⌚ represents a variable, just like if we had defined x = 2

y = ⌚           # y equals 2
z = '⌚'         # z equals the character ⌚
```

## STRINGS

We'll rarely use the type `Char` directly. Instead, we'll work with the so-called type `String`. This is an ordered collection of characters, making it possible to represent text.

Strings can be defined through either double quotes `" "` or triple quotes `""" """`. The latter is particularly convenient for handling newlines, such as when the text has to span multiple lines.

```
x = "Hello, beautiful world"
x = """Hello, beautiful world"""
```

## STRING INTERPOLATION

**String interpolation** allows you to embed Julia code within a string, which is then evaluated and replaced in the string with its value.

To interpolate an expression, you must simply prefix the string with the `$` symbol. If the expression contains spaces, you'll need to enclose it in curly braces, like `$(())`. Both cases are exemplified below.

```
number_students = 10

output_text      = "There are $(number_students) students in the course"

julia> output_text
"There are 10 students in the course"
```

```
number_matches  = 50
goals_per_match = 2

output_text      = "Last year, Messi scored $(number_matches * goals_per_match) goals"

julia> output_text
"Last year, Messi scored 100 goals"
```