Strings

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Strings in Ruby

- Strings are some of the most important building blocks in a software system.

- In Ruby, a string is a sequence of alphanumeric characters.

- Every string is an object of the class `String`.

- Unlike in some other languages like Java, in Ruby, strings are mutable.

- Being objects, strings have a lot of methods. Listing all of them doesn't worth it, but we'll do a review.

- We can get a string value from the user using `gets` and print any string using `puts` or `print` (as with any variable.)

How to use strings in Ruby?

- Printing a string directly (what's the difference between single and double quotes?)

```
puts "Any message you can imagine"

puts 'Any message you can imagine'
```

- Creating an empty string variable

```
my_variable = String.new
```

- Creating a string variable with an initial value

```
my_variable = "Any string you can imagine"
```

- Concatenating two strings

```
concat_message = "Hello, " + "stranger."

concat_message = "Hello, " + another_string_var
```

How to use strings in Ruby?

- String interpolation

```ruby
name = "Kyle Broflovski"

age = 10

puts "Hi, I'm #{name} and I'm #{age} years old!"
```

- String replication

```ruby
team = "player" * 11
```

- Escaping special characters

```ruby
any_variable = "One line\nOther line\nA final line"
```

- Getting the string length (both instructions have the same result)

```ruby
any_variable.size
any_variable.length
```

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How to use strings in Ruby?

- Getting a substring

  ```
  a_string[1,3] # Gets three characters from the position 1

  a_string[1..5] # Gets the characters between the positions 1 and 5

  a_string[2..-2] # Gets all the characters from the position 2 but the last one
  ```

- Finding out if a string includes another string

  ```
  a_string.include?("any characters")

  a_string.index("any characters") # Returns where the included string appears
  ```

- Getting a string as its uppercase or as it lowercase

  ```
  a_string.upcase

  a_string.downcase
  ```

- Removing surrounding spaces from a string

  ```
  a_string.strip # Removes all the surrounding spaces

  a_string.lstrip # Removes spaces at the left

  a_string.rstrip # Removes spaces at the right
  ```

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How to use strings in Ruby?

- Splitting a string

    ```
    a_string.split
    a_string.split(",")
    ```

- Converting an array of strings (or characters) to a string

    ```
    a_string = an_array.join
    ```

- Appending strings (to other strings)

    ```
    a_string << string_to_append
    ```

- Reversing the order of a string

    ```
    a_string.reverse
    ```

- Converting to other types (e.g., `to_i`, `to_f`)

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Useful Resources

- String class documentation: https://ruby-doc.org/3.2.2/String.html

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Thanks! Any question?

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