

# Strings

Strings in Python are sequences of characters. They are immutable, which means that once created, they cannot be changed. Strings are created by enclosing characters in quotes. Single quotes ('...') and double quotes ("...") are both used to denote strings, however, it is best to be consistent across your scripts. Here's a quick rundown of the basics of strings in Python:

## Creating Strings

```
# using single quotes
str1 = 'Hello World!'

# using double quotes
str2 = "Hello World!"
```

## Accessing Characters

```
# access the first character
print(str1[0])

# access the last character
print(str1[-1])
```

## Slicing Strings

```
# get a slice of characters from the string
print(str1[2:5])
```

## Concatenating Strings

```
# using the plus operator
str3 = str1 + str2
print(str3)

# using the join method
```

```
str4 = " ".join([str1, str2])
print(str4)
```

## String Methods

Here are some of the most commonly used string methods:

```
# lowercase
print(str1.lower())

# uppercase
print(str1.upper())

# replace
print(str1.replace("World", "Universe"))

# find
print(str1.find("World"))

# split
print(str1.split(" "))
```

## String Formatting

```
# using f-strings (available in Python 3.6+)
name = "John"
print(f"Hello, {name}")

# using format method
print("Hello, {}".format(name))

# using % operator
print("Hello, %s" % name)
```

## Exercises

Question 5 is intentionally tricky and may require you to do a bit of research on your own to find a solution. If you get stuck, don't be afraid to ask for help!

1. Write a program that takes a name as input and greets the user using their name.
2. Write a program that takes the string "Hello there!" and prints the string in all uppercase letters.
3. Write a program that splits the string "Let's split into groups." into words and prints the result.
4. Write a program that takes the string "I love blank!" and replaces the word blank with Python.
5. Write a program that reverses the string "Did Hannah see bees? Hannah did.".

## Further Reading

Check out the following resources for more information on strings in Python:

- Python Documentation
  - [Python Strings](#)
  - [Python String Methods](#)
  - [Python String Formatting](#)
- Real Python
  - [Python String Formatting Best Practices](#)
- W3Schools
  - [Python String Methods](#)
- GeeksforGeeks
  - [Python Strings](#)

Additionally, you can use search terms like “python strings” or “python string methods” to find more resources online.