

Strings in Python

In Python, strings are sequences of characters used to store and manipulate text-based data. This paper discusses the creation of strings in Python, highlighting the syntax and various methods for defining strings.

Strings in Python are created by enclosing characters within quotes. They can be defined using single, double, or triple quotes for multiline strings. Understanding how to create strings is essential for text processing, data storage, and communication in Python programs.

Creating a String

Using Single or Double Quotes

A string can be created by enclosing characters in single (') or double (") quotes:

```
single_quoted_string = 'Hello'  
double_quoted_string = "World"
```

Multiline Strings

For multiline strings, triple quotes (''' or ''') are used:

```
multiline_string = """This is a multiline string in Python."""
```

String Immutability

Once a string is created, its content cannot be changed, making it immutable. However, new strings can be constructed based on existing ones.

Manipulating Strings in Python: Accessing Characters and Removing Spaces

After creating strings, it is often necessary to access individual characters or modify the string by removing spaces. Python provides intuitive ways to perform these operations, which are crucial for tasks such as parsing data, formatting output, and more.

Accessing Characters in a String

Individual characters in a Python string can be accessed using indexing with square brackets. Positive indices start from 0 for the first character, while negative indices start from -1 for the last character.

Removing Space from a String

Spaces can be removed from a Python string using methods like `replace()` or `join()` with `split()`, which are useful for cleaning up text data.

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```
[ ]: # Strings
```

```
[1]: # Creating a string
my_string = "Hello, World!"

# Accessing characters in the string
first_char = my_string[0] # 'H'
second_char = my_string[1] # 'e'

# Removing spaces from a string
original_string = " Remove spaces from this string. "
cleaned_string = original_string.replace(" ", "")
print(cleaned_string) # Output: "Removespacesfromthisstring."
```

```
# Common string methods
sample_text = "This is a sample text."
uppercase_text = sample_text.upper() # Convert to uppercase
lowercase_text = sample_text.lower() # Convert to lowercase
stripped_text = sample_text.strip() # Remove leading and trailing whitespace
split_words = sample_text.split() # Split into a list of words

print("Uppercase:", uppercase_text)
print("Lowercase:", lowercase_text)
print("Stripped:", stripped_text)
print("Split words:", split_words)
```

```
Removespacesfromthisstring.
Uppercase: THIS IS A SAMPLE TEXT.
Lowercase: this is a sample text.
Stripped: This is a sample text.
Split words: ['This', 'is', 'a', 'sample', 'text.']
```

References:

<https://www.programiz.com/python-programming/string>

<https://beginnersbook.com/2018/02/python-strings/>

<https://www.geeksforgeeks.org/python-string/>

<https://www.geeksforgeeks.org/accessing-characters-by-index-in-a-string/>

<https://www.geeksforgeeks.org/python-remove-spaces-from-a-string/>