Basics of strings in Python

python3 | string | basics | communitycreator

A String is a sequence of characters, which means it is an ordered collection of other values.

Python strings are **immutable**, meaning that they cannot be changed after they are created.

The Various String Real-Time Applications in Python are:

- Natural language Processing
- Regular expression
- Data mining
- Dictionaries
- Chatbot
- Machine translation

How to create a string in Python

- Strings can be created by enclosing characters inside **single quotes** or **double-quotes**.
- Triple quotes can also be used in Python, but are generally used to represent multi-line strings and docstrings.

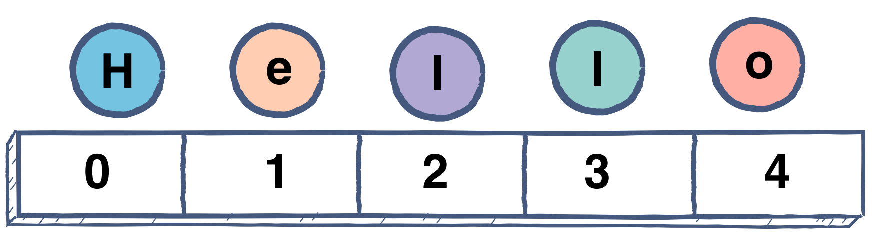
Code

```
# string with single quotes
my_string = 'Welcome'
print(my_string)

# string with double quotes
my_string = "Welcome I'm in Strings"
print(my_string)

# string with triple quotes
my_string = '''Welcome'''
print(my_string)

```

Strings Creation

Indexing in Strings

- We can access individual characters using `indexing` or a range of characters using `slicing`.
- Index will always start from `0`.
- Trying to access a character out of index range will raise an `IndexError`.
- The index must be an `integer`.



Accessing Values in String

To access each value or sub-string, use the square brackets to slice along the index or indices to obtain your sub-string.

```
#Accessing string characters in Python
str1 = 'Computer'
print('str1 = ', str1)

#string are immutable
# str1[0] ='c'

#first character
print('str1[0] = ', str1[0])

#last character
print('str1[-1] = ', str1[-1])

#index Error
#print('str1[-1] =', str1[9])

#slicing 2nd to 5th character
print('str1[3:5] = ', str1[3:5])

#slicing can be done by slice function
x=slice(3,5)
print('str1[3,5]= ', str1[x])

#slicing 6th to 2nd last character
print('str1[5:-2] = ', str1[5:-2])
```

Strings Indexing & Slicing

Python String Operations

There are many operations that can be performed with strings.

a) Concatenation of Two or More Strings

- Joining two or more strings into a single string is called concatenation.
- The `+` operator will be used to concatenate in Python.
- The `*` operator can be used to repeat the string for a given number of times.

```
# Python String Operations
str1 ='Computer'
str2 ='Science'

# using +
print('str1 + str2 = ', str1 + str2)

# using *
print('str1 * 3 =', str1 * 3)
```

b) Iterating through a string

We can iterate through a string using a for loop.

Below is an example of how to display the letter in a string:

```
# Iterating through a string

name ="welcome"
for letter in name:
    print("Letter is "+letter)
```

for loop in String

Some Important String Functions

function	Description
`upper()`	We can convert a string to uppercase in Python using the `str.upper()` function
`lower()`	We can convert a string to lowecase in Python using the `str.lower()` function
`len()`	This function will return length of the String.
`find()`	The Python String `find()` method is used to find the index of a substring in a string.
`strip()`	Used to trim whitespaces from the string object.

Contributor: gunti spandan

Attributions:

1. *Basics of Python by Spandan G*