**Strings in Python:**

A string is **a sequence of characters that can be a combination of letters, numbers, and special characters**. It can be declared in python by using single quotes, double quotes, or even triple quotes. These quotes are not a part of a string, they define only starting and ending of the string.  Strings are immutable, i.e., they cannot be changed. Each element of the string can be accessed using indexing or slicing operations. Strings are used widely in many different applications, such as storing and manipulating text data, representing names, addresses, and other types of data that can be represented as text. Python does not have a character data type, a single character is simply a string with a length of 1. Square brackets can be used to access elements of the string.

Strings in python are surrounded by either single quotation marks, or double quotation marks.

'hello' is the same as "hello".

You can display a string literal with the print() function:

EX: print("Hello")  
print('Hello')

## Assign String to a Variable

Assigning a string to a variable is done with the variable name followed by an equal sign and the string:

|  |
| --- |
| ***a = 'This is a string'***  ***print (a)***  ***b = "This is a string"***  ***print (b)***  ***c= '''This is a string'''***  ***print (c)*** |

## Multiline Strings

You can assign a multiline string to a variable by using three quotes-

|  |
| --- |
| ***S = """ this is multine***  ***sentences written in***  ***three double quotes """ print(a)*** |

Or three single quotes:

|  |
| --- |
| ***s = ''' this is multine***  ***sentences written in***  ***three single quotes ''' # newline print(a)*** |

## Creating a String in Python

**Strings in Python** can be created using single quotes or double quotes or even triple quotes.

|  |
| --- |
| *# Creation of String*  *# Creating a String with single Quotes*  *String1 = 'Welcome to PYTHON’*  *print("String with the use of Single Quotes: ")*  *print(String1)*  *# Creating a String with double Quotes*  *String2 = " PYTHON PROGRAM "*  *print("\nString with the use of Double Quotes: ")*  *print(String2)*  *# Creating a String with triple Quotes*  *String3 = '''python prammers is best choice"'''*  *print("\nString with the use of Triple Quotes: ")*  *print(String3)*  *# Creating String with triple Quotes allows multiple lines*  *String1 = ''' DATA SCIENCE*  *For*  *Life'''*  *print("\nCreating a multiline String: ")*  *print(String1)* |

## Accessing characters in Python String

In [Python](https://www.geeksforgeeks.org/python-programming-language/learn-python-tutorial/), individual characters of a String can be accessed by using the method of Indexing. Indexing allows negative address references to access characters from the back of the String, e.g. -1 refers to the last character, -2 refers to the second last character, and so on.

While accessing an index out of the range will cause an **IndexError**. Only Integers are allowed to be passed as an index, float or other types that will cause a **TypeError**.

|  |
| --- |
| Python Program to Access characters of String  Str1 = "WELCOME TO INDIA"  print("Initial String: ")  print(Str1)  # Printing First character  print("\nFirst character of String is: ")  print(Str1[0])  # Printing Last character  print("\nLast character of String is: ")  print(Str1[-1])  print("print character of 4 the postion")  print(Str1[3]) |

## Looping Through a String

|  |
| --- |
| ***for x in "tiger": # print strings through loop***  ***print(x)*** |

## String Length

To get the length of a string, use the **len() function.**

|  |
| --- |
| **a = "*Hello my name is python"***  ***print(len(a))*** |

## Check String

To check if a certain phrase or character is present in a string, we can use the keyword **in.**

|  |
| --- |
| tx = "The best things in life is to learn python"  print("life" in tx) |

## [Reversing a Python String](https://www.geeksforgeeks.org/reverse-string-python-5-different-ways/)

With Accessing Characters from a string, we can also reverse them. We can Reverse a **string by writing [::-1] and the string will be reversed.**

We can also reverse a string by using built-**in**[**join**](https://www.geeksforgeeks.org/python-string-join-method/)**and**[**reversed**](https://www.geeksforgeeks.org/python-reversed-function/)**function.**

## Deleting/Updating from a String

**Updation or deletion** of characters from a String is **not allowed.** This will cause an error because item assignment or item deletion from a String is not supported. Although deletion of the **entire String is possible with the use of a built-in del keyword**. This is because Strings are **immutable,** hence elements of a String cannot be changed once it has been assigned. Only new strings can be reassigned to the same name.

**Pro**

**Escape Sequencing in Python**

Escape sequences start with a backslash and can be interpreted differently. If single quotes are used to represent a string, then all the single quotes present in the string must be escaped and same is done for Double Quotes.

The escape character allows you to use double quotes when you normally would not be allowed:

**txt = "We are the so-called \"Vikings\" from the north."**

**print(txt)**

## String Format

As we learned in the Python Variables , we cannot combine strings and numbers like this: **age = 36  
txt = "My name is John, I am " + age  
print(txt)**

**O/P- ITS GIVESA TYPE ERROR**

But we can combine **strings and numbers by using the format() method!** The format() method takes the passed arguments, formats them, and places them in the string **where the placeholders {} are**:

Srings in Python can be formatted with the use of [format()](https://www.geeksforgeeks.org/python-string-format-method/) method which is a very versatile and powerful tool for formatting Strings. Format method in String contains curly braces {} as placeholders which can hold arguments according to position or keyword to specify the order.

Program :

**Modify string**

Remove Whitespace

- Whitespace is the space before and/or after the actual text,

- and very often you want to remove this space.

- The strip() method removes any whitespace from the beginning or the end:

Prog :

# Replace String

The **replace() method replaces a string with another string**:

## Split String

The **split() method returns a list where the text between the specified separator** becomes the list items.

**Prog:**

# String Concatenation

To concatenate, or combine, two strings you can use the + operator.

Prog:

## ****Useful Python String Operations****  : plz check jupyter string all program

* [Logical Operators on String](https://www.geeksforgeeks.org/g-fact-43-logical-operators-on-string-in-python/)
* [String Formatting using %](https://www.geeksforgeeks.org/string-formatting-in-python-using/)
* [String Template Class](https://www.geeksforgeeks.org/template-class-in-python/)
* [Split a string](https://www.geeksforgeeks.org/how-to-split-a-string-in-cc-python-and-java/)
* [Python Docstrings](https://www.geeksforgeeks.org/python-docstrings/)
* [String slicing](https://www.geeksforgeeks.org/string-slicing-python-check-string-can-become-empty-recursive-deletion/)
* [Find all duplicate characters in string](https://www.geeksforgeeks.org/python-counter-find-duplicate-characters-string/)
* [Reverse string in Python (5 different ways)](https://www.geeksforgeeks.org/reverse-string-python-5-different-ways/)
* [Python program to check if a string is palindrome or not](https://www.geeksforgeeks.org/python-program-check-string-palindrome-not/)

**Python program for practice : from geeksfor gerek websiter**

**Programs of Python Strings**

* Strings – [Set 1](https://www.geeksforgeeks.org/interesting-facts-about-strings-in-python-set-1/), [Set 2](https://www.geeksforgeeks.org/interesting-facts-about-strings-in-python-set-2/)
* String Methods – [Set 1](https://www.geeksforgeeks.org/string-methods-python-set-1/), [Set 2](https://www.geeksforgeeks.org/python-string-methods-set-2-len-count-center-ljust-rjust-isalpha-isalnum-isspace-join/) , [Set 3](https://www.geeksforgeeks.org/python-string-methods-set-3-strip-lstrip-rstrip-min-max-maketrans-translate-relplace/)
* [Regular Expressions (Search, Match and Find All)](https://www.geeksforgeeks.org/regular-expressions-python-set-1-search-match-find/)
* [Python String Title method](https://www.geeksforgeeks.org/title-in-python/)
* [Swap commas and dots in a String](https://www.geeksforgeeks.org/python-swap-commas-dots-string/)
* [Program to convert String to a List](https://www.geeksforgeeks.org/python-program-convert-string-list/)
* [Count and display vowels in a string](https://www.geeksforgeeks.org/python-count-display-vowels-string/)
* [Python program to check the validity of a Password](https://www.geeksforgeeks.org/python-program-check-validity-password/)
* [Python program to count number of vowels using sets in given string](https://www.geeksforgeeks.org/python-program-count-number-vowels-using-sets-given-string/)
* [Check for URL in a String](https://www.geeksforgeeks.org/python-check-url-string/)
* [Check if a Substring is Present in a Given String](https://www.geeksforgeeks.org/python-check-substring-present-given-string/)
* [Check if two strings are anagram or not](https://www.geeksforgeeks.org/python-sorted-check-two-strings-anagram-not/)
* [Map function and Dictionary in Python to sum ASCII values](https://www.geeksforgeeks.org/map-function-dictionary-python-sum-ascii-values/)
* [Map function and Lambda expression in Python to replace characters](https://www.geeksforgeeks.org/map-function-lambda-expression-python-replace-characters/)
* [SequenceMatcher in Python for Longest Common Substring](https://www.geeksforgeeks.org/sequencematcher-in-python-for-longest-common-substring/)
* [Print the initials of a name with last name in full](https://www.geeksforgeeks.org/python-print-initials-name-last-name-full/)
* [The k most frequent words from data set in Python](https://www.geeksforgeeks.org/find-k-frequent-words-data-set-python/)
* [Find all close matches of input string from a list](https://www.geeksforgeeks.org/python-find-close-matches-input-string-list/)
* [Check if there are K consecutive 1’s in a binary number](https://www.geeksforgeeks.org/python-check-k-consecutive-1s-binary-number/)
* [Lambda and filter in Python](https://www.geeksforgeeks.org/lambda-filter-python-examples/)
* [Concatenated string with uncommon characters in Python](https://www.geeksforgeeks.org/concatenated-string-uncommon-characters-python/)
* [Check if both halves of the string have same set of characters in Python](https://www.geeksforgeeks.org/check-halves-string-set-characters-python/)
* [Find the first repeated word in a string in Python](https://www.geeksforgeeks.org/find-first-repeated-word-string-python-using-dictionary/)
* [Second most repeated word in a sequence in Python](https://www.geeksforgeeks.org/second-repeated-word-sequence-python/)
* [K’th Non-repeating Character in Python](https://www.geeksforgeeks.org/kth-non-repeating-character-python-using-list-comprehension-ordereddict/)
* [Reverse words in a given String in Python](https://www.geeksforgeeks.org/python-counter-find-duplicate-characters-string/)
* [Print number with commas as 1000 separators in Python](https://www.geeksforgeeks.org/print-number-commas-1000-separators-python/)
* [Prefix matching in Python using pytrie module](https://www.geeksforgeeks.org/python-string/Print%20number%20with%20commas%20as%201000%20separators%20in%20Python)
* [Python Regex to extract maximum numeric value from a string](https://www.geeksforgeeks.org/python-regex-extract-maximum-numeric-value-string/)
* [Pairs of complete strings in two sets](https://www.geeksforgeeks.org/python-set-pairs-complete-strings-two-sets/)
* [Remove all duplicates words from a given sentence](https://www.geeksforgeeks.org/python-remove-duplicates-words-given-sentence/)
* [Sort words of sentence in ascending order](https://www.geeksforgeeks.org/python-sort-words-sentence-ascending-order/)
* [Reverse each word in a sentence](https://www.geeksforgeeks.org/python-reverse-word-sentence/)
* [Python code to print common characters of two Strings in alphabetical order](https://www.geeksforgeeks.org/python-code-print-common-characters-two-strings-alphabetical-order/)
* [Python program to split and join a string](https://www.geeksforgeeks.org/python-program-split-join-string/)
* [Python code to move spaces to front of string in single traversal](https://www.geeksforgeeks.org/python-code-move-spaces-front-string-single-traversal/)
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* [Remove all duplicates from a given string in Python](https://www.geeksforgeeks.org/remove-duplicates-given-string-python/)
* [Ways to increment a character in Python](https://www.geeksforgeeks.org/ways-increment-character-python/)
* [Prefix matching in Python using pytrie module](https://www.geeksforgeeks.org/prefix-matching-python-using-pytrie-module/)
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* [Reverse words in a given String in Python](https://www.geeksforgeeks.org/reverse-words-given-string-python/)
* [Execute a String of Code in Python](https://www.geeksforgeeks.org/execute-string-code-python/)
* [String slicing in Python to check if a string can become empty by recursive deletion](https://www.geeksforgeeks.org/string-slicing-python-check-string-can-become-empty-recursive-deletion/)
* [Ways to print escape characters in Python](https://www.geeksforgeeks.org/ways-print-escape-characters-python/)
* [String slicing in Python to rotate a string](https://www.geeksforgeeks.org/string-slicing-python-rotate-string/)
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* [Zip function in Python to change to a new character set](https://www.geeksforgeeks.org/zip-function-python-change-new-character-set/)
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* [Python String Title method](https://www.geeksforgeeks.org/title-in-python/)
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* [Python Docstrings](https://www.geeksforgeeks.org/python-docstrings/)
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* [Python program to count upper and lower case characters without using inbuilt functions](https://www.geeksforgeeks.org/python-program-count-upper-lower-case-characters-without-using-inbuilt-functions/)
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* **2.**[String slicing in Python to rotate a string](https://www.geeksforgeeks.org/string-slicing-python-rotate-string/?ref=rp)
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* **4.**[Python | Sorting string using order defined by another string](https://www.geeksforgeeks.org/python-sorting-string-using-order-defined-by-another-string/?ref=rp)
* **5.**[Python | Merge Tuple String List values to String](https://www.geeksforgeeks.org/python-merge-tuple-string-list-values-to-string/?ref=rp)
* **6.**[Python | Sort each String in String list](https://www.geeksforgeeks.org/python-sort-each-string-in-string-list/?ref=rp)
* **7.**[Python | Convert List of String List to String List](https://www.geeksforgeeks.org/python-convert-list-of-string-list-to-string-list/?ref=rp)
* **8.**[Python - Remove front K characters from each string in String List](https://www.geeksforgeeks.org/python-remove-front-k-characters-from-each-string-in-string-list/?ref=rp)
* **9.**[Python - Remove String from String List](https://www.geeksforgeeks.org/python-remove-string-from-string-list/?ref=rp)
* **10.**[Python | Delimited String List to String Matrix](https://www.geeksforgeeks.org/python-delimited-string-list-to-string-matrix/?ref=rp)