**Strings**

* A String is a sequence of characters.
* String may contain alphabets, numbers and special characters.
* Usually strings are enclosed within a single quotes and double quotes.
* String is immutable in nature.
* Example:
* print("Archana")  
  print('Archana')  
  output:  
  Archana  
  Archana

**INBUILT STRING FUNCTIONS**

* Python mainly contains 3 inbuilt string functions. They are
* len(): Find the length of Characters in string.
* s="Hello"
* print(len(s))

output= 5

* Max():Largest value in a string based on ASCII values.
* numbers = [10, 25, 30, 5, 70, 60]   
  max\_value = max(numbers)   
  print("The maximum value is:", max\_value)

output: The maximum value is: 70

* Min():Smallest value in a string based on ASCCII values.
* numbers = [10, 25, 30, 5, 70, 60]  
  min\_value = min(numbers)  
  print("The minimum value is:", min\_value)  
  output: The minimum value is: 5

**Inside Quotes**

* You can use quotes inside a string, as long as they don't match the quotes surrounding the string:
* **Example:**
* print("It's alright")  
  print("she is called 'Chaithu'")  
  print('she is called "Chaithu"')  
  output:  
  It's alright  
  she is called 'Chaithu'  
  she is called "Chaithu"

**Assign String to a Variable:**

* 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:
* **Example**
* a="Rachana"  
  print(a)  
  output:  
  Rachana

**Multiline Strings:**

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

* **Example:**
* a= """Strings are sequences of characters"""  
  print(a)  
  a='''Strings are sequences of characters.'''  
  print(a)  
    
  output:  
  Strings are sequences of characters  
  Strings are sequences of characters.

**Methods of strings:**

* Slicing strings
* Modify strings
* Concatenate strings
* Format Strings
* Escape Characters

**1.Python - Slicing Strings:**

* If a range of characters in a string are required slicing used.
* Specify the start index and the end index, separated by a colon, to return a part of the string.
* **syntax: string[start:end:step]**
* strName is the name of the string
* Start is the index of the starting letter of range
* End is the index of the ending letter of range
* **Example:**
* b ="Hello, World!"  
  print(b[2:5])  
  output:llo

**Slice From the Start**

By leaving out the start index, the range will start at the first character:

* **Example**
* b ="Hello, World!"  
  print(b[:5])  
  output:Hello

**Slice To the End**

* By leaving out the *end*index, the range will go to the end:
* **Example**
* b = "Hello, World!"  
  print(b[2:])  
  output:  
  llo, World!

**Negative Indexing**

* Use negative indexes to start the slice from the end of the string:
* **Example**
* negative indexsing # "H e l l o, W o r l d"  
   # 0 1 2 3 4, -5 -4 -3 -2 -1  
  b ="Hello, World!"  
  print(b[-5:-2])  
  output: orl

**2.Modify String:**

* Few basic modifications that can be done to the strings
* **Upper():**Converts string to upper case letters.
* **Example:**
* a ="Hello, World!"  
  print(a.upper())  
  output:  
  HELLO, WORLD!
* **Lower():**Converts string to lower case letters**.**

**Example**

**a ="Hello, World!"  
print(a.lower())**

**output:  
hello, world!**

* **Strip():**Remove whitespaces in beginning or in the end.
* **Example:**
* a =" Hello, World! "  
  print(a.strip())  
  output:  
  Hello, World!
* **Replace():**Replaces a string with another string
* Example:
* a = "Hello, World!"  
  print(a.replace("H", "J"))
* Output:Jello, World!
* **Split():** Seperates string if it finds a separator.
* a ="Hello, World!"  
  print(a.split(","))  
  output:  
  ['Hello', ' World!']
* The functions are used on a particular string with a dot operator.

**4.Concatenation string**

* Joining two different strings/data types is called concatenation.
* Concatenation of different datatypes is not possible in python.
* This concatenation is done using ‘+’
* If two variables are of str data type they can be concatenated easily with ‘+’.

**Example:**

**Merge variable a with variable b into variable c:**

* a ="Hello"  
  b ="World"  
  c = a + b  
  print(c)  
  output: HelloWorld

**Example**

a ="Hello"  
b ="World"  
c = a +" "+ b  
print(c)  
**output: Hello World**

**4.Format – Strings**

* String and the numbers can be linked using format method.
* It reserves a place for the number in the string using place holder with curly braces()
* The numbers are further assigned as the arguments passed through
* The format()
* Values can be assigned to place holder to get the required order.
* **Example:**
* print("I love {0} and {1}.".format("Python", "JavaScript"))  
  outpuy:  
  I love Python and JavaScript.

**5.Escape Characters**

* There are some illegal characters that we cannot use inside a string
* **Example:** the quotation marks, backslash etc.
* To insert the illegal characters, escape character is used.
* It is a backslash followed by the illegal character.
* Some familiar escape chatacters
* \’----- single quote
* [\\-----Backslash](file:///\\-----Backslash)
* \n-----New line
* \“----- double quote
* \t------Horizontal tab
* \r------Carriage return
* \b------Backspace
* \f-------Form feed
* \v------vertical tab
* \0-------Null character
* **Example**
* The escape character allows you to use double quotes when you normally would not be allowed:
* text = "Hello\nWorld"  
  print(text)  
  output:  
  Hello  
  World