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Python Alpha 101 a

Strings

Dua of the day to recite after Takbeer in Salah

اللَّهُمَّ بَاعِدْ بَيْنِي وَ بَيْنَ خَطَايَايَ كَمَا
بَاعَدْتَ بَيْنَ الْمَشْرِقِ وَالْمَغْرِبِ،
اللَّهُمَّ نَقِّنِي مِنْ خَطَايَايَ كَمَا يُنْقَى الثَّوْبُ
الْأَبْيَضُ مِنَ الدَّنَسِ، اللَّهُمَّ اغْسِلْنِي مِنْ
خَطَايَايَ بِالثَّلْجِ وَالْمَاءِ وَالْبَرَدِ

O Allah , separate me from my sins as You
have separated the East from the West. O
Allah, cleanse me of my transgressions as
the white garment is cleansed of stains . O
Allah , wash away my sins with ice and water
and frost.

Al-Bukhari 1/181, Muslim 1/419

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- Please review the notes daily.
- Please take time for clearing up your mind and reflect on how things are proceeding in your studies.

Python Strings not the other strings

In Python we will find many data types. As you have seen from Python Primer. So we will repeat them again to re-enforce concepts 😊

In Python we have string, integer, float, list, dict and tuple. Lets talk about string first.



So what is python strings

A *string* is simply a series of characters. Anything inside quotes is considered

a string in Python, and you can use single or double quotes around your strings like this:

“This is a string”

“Muhammad Faisal, Rehan-ul-Haque, Muhammad Amir Majeed and Muhammad Ali, Ishraque Ansari are a string”

This flexibility allows you to use quotes and apostrophes within your strings:

'I told my friend, "Python is my favorite language!"'

"The language 'Python' is named after Monty Python, not the snake."

"One of Python's strengths is its diverse and supportive community."

What to cover about strings 😊

- How to create strings
- String concatenation
- String methods
- String slicing
- String substitution

Creating a string

Strings are created in three ways. We can use:

- Single quote
- Double quotes
- Triple quotes

String examples

```
my_string = "Welcome to Python!"
```

```
another_string = 'The bright red fox jumped the fence.'
```

```
a_long_string = """This is a  
multi-line string.
```

```
It covers more than one line"""
```

More string examples

```
my_string = "I'm a Python programmer!"
```

```
otherString = 'The word "python" usually refers to a snake'
```

```
tripleString = """Here's another way to embed "quotes" in a string"""
```

str method aka casting

```
>>> my_number = 123
```

```
>>> my_string = str(my_number)
```

If you type the code above into your interpreter, you'll find that you have transformed the integer value into a string and assigned the string to the variable `my_string`. This is known as **casting**

But you'll also find that you can't always do the reverse, such as casting a string like 'ABC' into an integer. If you do that, you'll end up with an error like the one in the following example:

```
int('ABC')
```

This throw out an error message.

What this means is that we cannot convert a literal into an integer 😊

However if we do this way

```
x=int("123")
```

Then it would work fine

Note:

String in python is immutable type. What this means is that you cannot change a string content after creation.

```
my_string = "abc"  
my_string[0] = "d"
```

The above will throw out an error message.

String Concatenation

Concatenation means combining two things together.

Or in our case adding two strings together.

```
string_one="sharfoo is a good"  
string_two=" guy"  
string_three=string_one + string_two  
print (string_three)
```

The '+' operator concatenates the two strings into one.

String Methods

String is an object in Python.

Everything is an object in Python.

Which means Python is an object oriented language 😊

Don't sweat as we will cover this later inshAllah.

String Methods continued...

For now lets talk about strings more.

For example

```
my_string = "This is a string"
```

What if we need the above string in upper or lower case 😊

Strings in upper and lower case...

```
my_string = "This is a string"
```

```
my_string.upper()
```

```
my_string = "This is a string"
```

```
my_string.lower()
```

All the string commands

```
dir(my_string)
```

Asking for help in python

```
help(my_string.upper)
```

Help is the build in function within Python which will come very handy.

Introspection means ??

Introspection meaning from dictionary perspective:

- the examination or observation of one's own mental and emotional processes.
- "quiet introspection can be extremely valuable"

In python introspection allows us to ask Python about itself 😊

```
type(my_string)
```

جزاك الله

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