Python Essentials | Jan 2021 Batch 1 | Day 3 Overview

DAY 03 AGENDA | Total Duration 1:33:32

- For loop
- Break, continue, pass
- Data Types - Methods and Functions

And, to understand in detail please go through the below TIMESTAMPS

Day 3 | Jan 2021 Batch 1 | LetsUpgrade - Python Essentials

TIMESTAMP for EACH TOPIC:

02:24 - for loop

15:25 - Assignment 1

16:29 - break, continue, pass

32:04 - string

50:02 - List

1:08:43 - Tuple

1:14:22 - Dictionary

1:30:13 - Set

For loop:

For loop is used for iterating over a sequence that is either a list, a tuple, a dictionary, a set, or a string.

Syntax :

```
for var in sequence:
 #statement
```

Nested for loop:

A nested loop is a loop inside a loop. The "inner loop" will be executed one time for each iteration of the "outer loop".

Example:

```
for row in range (5):
 for col in range (row+1):
       print(“*”,end=” ”)
print()
```

Output:

```
*
* *
* * *
* * * *
* * * * *
```

Continue:

With the continue statement, we can stop the current iteration of the loop, and continue with the next.

Example:

```
a=1
while a<=5:
       print(“Hi”,a)
       a+=1
if a%2==0
               print(“Hey”,a)
continue
```

Output:

```
Hi 1
Hey 2
Hi 3
Hey 4
Hi 5
```

Break:

With the break statement, we can stop the loop before it has looped through all the items.

Example:

```
a=1
while True:
       print(“Hi”,a)
       a+=1

       if a==5

               break
```

Output:

```
Hi 1
Hi 2
Hi 3
Hi 4
```

Pass:

The pass statement is a *null* operation, nothing happens when it executes.

Example:

```
def fun( ):
       pass
print("Hiii" )
```

Output: **Hiii**

String data type:

Strings in python are surrounded by either single quotation marks('Hello') or double quotation marks("Hello"). It is immutable and ordered. We use the parenthesis brackets ( ) in the string.

Method	Description	Example(a="Hello")
upper( )	Converts a string into upper case	a.upper()>>>HELLO
lower( )	Converts a string into lower case	a.lower()>>>hello
capitalize( )	converts the first character to upper case	a.capitalize()>>>Hello
count( )	Returns the number of times a specified value occurs in a string	a.count("l")>>>2

Function	Description	Example(a="Hello")
len()	determine the length of a string	len(a)>>>5
min()	determine the min value of a string	min(a)>>>H
max()	determine the max value of a string	max(a)>>>o
str()	change the input into a string	str(a)>>>"Hello"

List data type:

Lists are used to store multiple items in a single variable. They are mutable and ordered. Use the

Square brackets[ ].

Method	Description	Example a=[1,2,3,4,5]
copy()	Returns a copy of the list	b=a.copy()>>>(therefore b=[1,2,3,45])
clear()	Removes all the elements from the list	a.clear()>>> [ ]
append()	Adds an element at the end of the list	a.append(10)>>>[1,2,3,4,5,10]
insert()	Adds an element at the specified position	a.insert(3,13)>>>[1,2,3,13,4,5,]
index()	Returns the index of the first element with the specified value	a.index(3)>>> 2
extend()	Add the elements of a list (or any iterable), to the end of the current list.	c=[8,9]>>>a.extend(c)>>>[1,2,3,4
count()	Returns the number of elements with the specified value.	a.count(5)>>> 1
remove()	Removes the item with the specified value	a.remove(4)>>>[1,2,3,5]
pop()	Removes the element at the end	a.remove(4)>>>[1,2,3,5]

Function	Description	Example a=[1,2,3,4,5]
len()	determine the length of a list	len(a)>>> 4
min()	determine the min value of a list	min(a)>>>1

max()	determine the max value of a list	max(a)>>> 5
type()	determine the type	type(a)>>> list

Tuple data type:

A tuple is a collection which is ordered and immutable. Use the pranthesis brackets for tuple( ) .

Method	**Description**	**Example a=(6,7,8,9)**
count()	Returns the number of times a specified value occurs in a string	a.count()>>> 1
index()	Returns the index of the first element with the specified value	a.index(9)>>> 3

Function	**Description**	**Example a=(6,7,8,9)**
len()	determine the length of a tuple	len(a)>>> 4
min()	determine the min value of a tuple	min(a)>>> 6
max()	determine the max value of a tuple	max(a)>>> 9
type()	determine the type	type(a)>>>tuple

Dictionary:

Dictionaries are used to store data values in key: value pairs. It is unordered and mutable. Use the curly brackets in dictionary{ }.

Method	**Description**	**Example a ={“A”:”10”,”B”:”13”,”C”:”16”}**

items()	Returns a list containing a tuple for each key value pair	a.items()>>>([(‘A’,10),(‘B’,13),(‘C’,16)])
keys()	Returns a list containing the dictionary's keys	a.keys()>>>([A,B,C])
pop()	Removes the element with the specified key	a.pop(“C”)>>>16 (therefore a=(‘A’:’10’,’B’:’13’))
popitem()	Removes the last inserted key-value pair	a.popitem( )>>>(‘C’,16) (therefore a={‘A’:’10’,’B’:’13’})
values()	Returns a list of all the values in the dictionary	a.values()>>>([10,13,16])
fromkeys()	Returns a dictionary with the specified keys and values	b=fromkeys(a,”N”)>>> **{‘A’:’N’,’B’:N’,’C’:’N}**
clear()	Removes all the elements from the dictionary	a.clear()>>> { }

Function	**Description**	**Example a={“A”:”10”,”B”:”13”,”C”:”16”}**
len()	determine the length of a dict	len(a)>>> 2
min()	determine the min value of a dict	min(a)>>> ‘A’
max()	determine the max value of a dict	max(a)>>> ‘C’
type()	determine the type	type(a)>>> dict

Set data type:

Sets are used to store multiple items in a single variable. It is unordered and mutable. Use the curly brackets{ } for set.

Example:

```
S={1,2,5,2,6,7,7}
print(S)
```

Output: `{1,2,5,6,7}`

In this example, set did not print the repeated values.

🚀**Assignment and Materials for the day have been uploaded in the drive.**

💾**Attendance Form: https://forms.gle/toDd35D8NspQtGDW7**

📨 **Assignment Submission Form: https://forms.gle/NC2UA5pHGXveETbu7**

📱 **Assignment and Materials**
Details: https://drive.google.com/drive/folders/191yMk0AwNBJWr3ZZtHoUe-qeG7cX-77I?usp=sharing

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