



Python Data Types

PYTHON PROGRAMMING COURSES

Including Python Compiler -Latvian

Python Data types

- Every value in Python has a data type.
- Since everything is an object in Python programming, data types are classes and variables are objects of these classes.
- There are various data types in Python.



Python Data types

Numbers

String

List

Tuple

Dictionary



Numbers

- Python supports integer, float and complex classes.
- Integers are whole numbers.

ex: 5,100

- Floating points are shown by the presence of a decimal point.

ex: 5.0,6.4



Strings

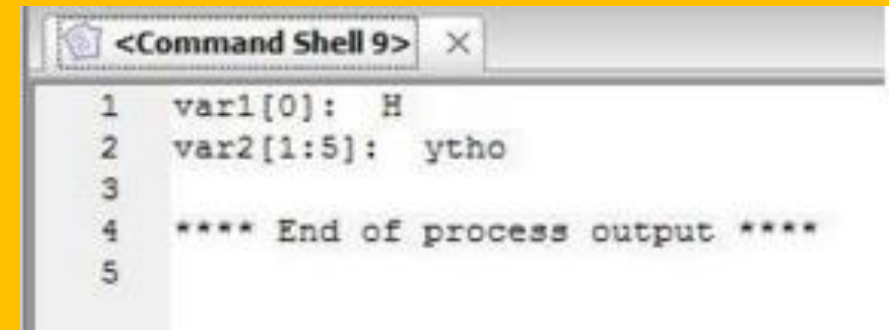
- Strings are immutable sequence of characters.
- These are inserted either in “ ” or „ ”.
- A double quote (“ ”) can contain a single quote („ ”).

```
Var1 = 'Hello World'  
Var2 = "Python Programming"
```



Printing a Character or Set of Characters within a String

```
Var1 = "Hello World!"  
Var2 = "Python Programming"  
  
Print ("Var1[0]:", Var1[0])  
Print ("Var2[1:5]:", Var2[1:5])
```



```
<Command Shell 9> X  
1 var1[0]: H  
2 var2[1:5]: ytho  
3  
4 **** End of process output ****  
5
```



Lists

- List is a frequently used data type in Python.
- List is created by placing all the items (elements) inside a square bracket [], separated by commas.

ex: list1= [1, 2, 3, 4]

- It can have any number of items and they may be of different types (integer, float, string etc.).

ex: list2= [1, "abc", 2.6, „a”]



Accessing Values in a List

- Example

```
List1 = ['physics','Chemistry',1994,2000]
```

```
List2 = [1,2,3,4,5,6,7]
```

```
Print("List1[0]:",List1[0])
```

```
Print("List2[1:5]:",List2[1:5])
```

- Output

```
List1[0]:Physics
```

```
List2[1:5]: [2,3,4,5]
```



Tuples

- A tuple is created by placing all the items (elements) inside parentheses (), separated by commas.
- A tuple can have any number of items and they may be of different types.



Tuples

- Tuple is putting different comma-separated values between parentheses().

ex: `tuple1 = (1, "abc", 2.6, „a“)`

- Empty tuple is written two parentheses containing nothing.

ex: `tuple2 = ()`

- Tuple containing a single value :

ex: `tuple3 = (1,)`



Accessing Values in a Tuple

- Example

```
Tup1 = ['physics','Chemistry',1994,2000]  
Tup2 = [1,2,3,4,5,6,7]
```

```
Print("Tup1[0]:",Tup1[0])  
Print("Tup2[1:5]:",Tup2[1:5])
```

- Output

```
Tup1[0]:Physics  
Tup2[1:5]: [2,3,4,5]
```



Dictionary

- Python dictionary is an unordered collection of items that has a key: value pair.
- Also known as associative arrays or hash tables.
- It is written by placing items inside curly braces {} separated by comma.

ex: { "name": "Jane" , "age": 14, "grade": 8 }

- Values can be of any data type and can repeat and keys must be unique.



Accessing Values in a Dictionary

- Example

```
Dict = {'Name':'Zara','Age':7,'Class':'First'}
```

```
Print("dict['Name']: ", dict['Name'])
```

```
Print("dict['Age']: ", dict['Age'])
```

- Output

```
dict['Name']: Zara
```

```
dict['Age']:7
```



Lesson Summary

- Python Data Types- Introduction
- Number
- String
- List
- Tuple
- Dictionary



Thank You

