

# Python Tutorial

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## Python Comments

```
#This is a comment  
print("Hello, World!")
```

## Data Types

```
* Text Type: (str)  
* Numeric Types: (int, float, complex)  
* Sequence Types: (list, tuple, range)  
* Mapping Type: (dict)  
* Set Types: (set, frozenset)  
* Boolean Type: (bool - true/false)  
* Binary Type: (bytes, bytearray, memoryview)  
* None Type: (NoneType)
```

## Casting

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Whith casting we can specify data type of variable

```
int()  
frloat()  
str()
```

## Python Lists

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```
myList = ["banana", "kiwi", "orange"]
```

Lists are used to store multiple items in a single variable, List items are ordered, changeable, and allow duplicate values.

It is also possible to use the `list()` constructor when creating a new list.

## Access Items

```
thislist = ["apple", "banana", "cherry"]
print(thislist[1])
banana
```

## Change Item Value

```
thislist = ["apple", "banana", "cherry"]
thislist[1] = "blackcurrant"
print(thislist)
['apple', 'blackcurrant', 'cherry']
```

## Append Items

```
thislist = ["apple", "banana", "cherry"]
thislist.append("orange")
print(thislist)
['apple', 'banana', 'cherry', 'orange']
```

## Python Tuple

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Tuples are used to store multiple items in a single variable.

Tuple is one of 4 built-in data types in Python used to store collections of data, the other 3 are List, Set, and Dictionary, all with different qualities and usage.

A tuple is a collection which is ordered and ***unchangeable***

```
thistuple = ("apple", "banana", "cherry")
```

## Python Dictionaries

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Are used to store data and key:value pairs

```
thisdict = {
  "brand": "Ford",
  "model": "Mustang",
  "year": 1964
}
```

Example output:

```
print(thisdict)
{'brand': 'Ford', 'model': 'Mustang', 'year': 1964}
```

## if else

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```
a = 200
b = 33
if b > a:
    print("b is greater than a")
elif a == b:
    print("a and b are equal")
else:
    print("a is greater than b")
```

## while loops

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```
i = 1
while i < 6:
    print(i)
    i += 1
```

## For Loops

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```
list = ["one", "two", "three" ]
for x in list
    print(x)
```