

```
In [2]: # What are comments?  
# Let's start with integers  
3.33  
  
Out[2]: 3.33  
  
In [2]: # Plus  
1 + 2  
  
Out[2]: 3  
  
In [11]: # Minus  
1 - 2  
  
Out[11]: -1  
  
In [3]: 15653153513135561+87634541896453156156  
  
Out[3]: 87650195049966291717  
  
In [12]: -100  
  
Out[12]: -100  
  
In [13]: # Multiply  
2 * 4  
  
Out[13]: 8  
  
In [1]: # Let's try some decimal points now!  
1.1 * (3 + 2.1)  
  
Out[1]: 5.61  
  
In [19]: # There are two types of Divisions: 1. Get the result with fractions  
4 / 3  
  
Out[19]: 1.3333333333333333  
  
In [20]: # 2. Get the rounded-to-integer result  
4 // 3  
  
Out[20]: 1  
  
In [4]: # Module  
121 % 3  
  
Out[4]: 1  
  
In [5]: 14%5  
  
Out[5]: 4  
  
In [2]: 3**4  
  
Out[2]: 81  
  
In [7]: # Power  
2 ** 3 ** 4  
  
Out[7]: 2417851639229258349412352  
  
In [9]: (2**3) **4  
  
Out[9]: 4096  
  
In [25]: 3 ** 2.1  
  
Out[25]: 10.04510856630514  
  
In [8]: int(3**2.1)  
  
Out[8]: 10  
  
In [26]: 2.1 ** 2  
  
Out[26]: 4.41  
  
In [34]: # Priorities are also important in Python!! (You will fully learn them in Operators lesson)  
1 + 2 * 3  
  
Out[34]: 7  
  
In [35]: # You can change priorities to your will with ()  
((1 + 2) * (3 ) )  
  
Out[35]: 9  
  
In [11]: age = 17  
  
In [ ]: a = 15.66  
b = True  
my_new_variable = 5666  
  
In [13]: age * 3  
  
Out[13]: 51  
  
In [15]: x = True  
False  
  
In [1]: 2>5  
  
Out[1]: False  
  
In [3]: 4==4 and 5>2  
  
Out[3]: True  
  
In [5]: name = "Matin"  
  
name == "matin"  
  
Out[5]: False  
  
In [14]: my_dict = {"Matin":1, "Reza":2, 3:True}  
  
In [15]: my_dict["Matin"]  
  
Out[15]: 1  
  
In [16]: my_dict[3]  
  
Out[16]: True  
  
In [17]: my_dict[1]  
  
-----  
KeyError                                Traceback (most recent call last)  
<ipython-input-17-b223affbf9a6> in <module>  
----> 1 my_dict[1]  
  
KeyError: 1  
  
In [ ]:   
  
In [17]: name = 'nima'  
  
In [3]: print(2374632479860)  
  
2374632479860  
  
In [ ]: nima = 5  
  
In [ ]:   
  
In [ ]: 'Nima'  
  
In [4]: "Nima"  
  
-----  
NameError                                Traceback (most recent call last)  
<ipython-input-4-7aaa5120c5e0> in <module>  
----> 1 nima  
  
NameError: name 'nima' is not defined  
  
In [5]:   
  
In [6]: print(name)  
  
Nima  
  
In [7]: name[0]  
  
Out[7]: 'N'  
  
In [8]: name[1]  
  
Out[8]: 'i'  
  
In [9]: name[2]  
  
Out[9]: 'm'  
  
In [11]: name = 'Amir Hossein Rezaei'  
  
In [14]: name[0:4]  
  
Out[14]: 'Amir'  
  
In [15]: name[4:10]  
  
Out[15]: ' Hosse'  
  
In [16]: name[5:]  
  
Out[16]: 'Hossein Rezaei'  
  
In [17]: name[5:1]  
  
Out[17]: 'Hossein Rezaei'  
  
In [18]: name[5::2]  
  
Out[18]: 'HsenRze'  
  
In [19]: name[5::3]  
  
Out[19]: 'Hsnee'  
  
In [ ]:   
  
In [20]: "Amir" + "Hossein"  
  
Out[20]: 'AmirHossein'  
  
In [25]: "Amir" + " " + "Hossein" + "Rezaei"  
  
Out[25]: 'Amir HosseinRezaei'  
  
In [24]: "Amir" * 3  
  
Out[24]: 'AmirAmirAmir'  
  
In [ ]:   
  
In [26]: len(name)  
  
Out[26]: 19  
  
In [ ]:   
  
Immutability  
  
In [27]: name[0] = 't'  
  
-----  
TypeError                                Traceback (most recent call last)  
<ipython-input-27-096adf91080d> in <module>  
----> 1 name[0] = 't'  
  
TypeError: 'str' object does not support item assignment  
  
In [33]: name = 'Amir Hossein Rezaei'  
  
In [34]: name = 'Mohmmad' + name[5:12] + 'Jafari'  
  
In [35]: print(name)  
  
MohmmadHosseinJafari  
  
In [36]: a = 5  
  
In [37]: a = a + 3  
  
In [38]: print(a)  
  
8  
  
In [ ]:   
  
In [39]: [1,2,3,"Hey", 2.1, [1,2,3]]  
  
Out[39]: [1, 2, 3, 'Hey', 2.1, [1, 2, 3]]  
  
In [40]: my_list = [1,2,3,"Hey", 2.1, [1,2,3]]  
  
In [41]: my_list[0]  
  
Out[41]: 1  
  
In [42]: my_list[4]  
  
Out[42]: 2.1  
  
In [43]: my_list[5]  
  
Out[43]: [1, 2, 3]  
  
In [44]: my_list[5][0]  
  
Out[44]: 1  
  
In [45]: my_list[0:3]  
  
Out[45]: [1, 2, 3]  
  
In [46]: my_list[0:4]  
  
Out[46]: [1, 2, 3, 'Hey']  
  
In [47]: new_list = [1,2,4,5]  
  
In [48]: new_list.append(6)  
  
In [49]: print(new_list)  
  
[1, 2, 4, 5, 6]  
  
Mutable  
  
In [50]: new_list[0] = "Hello"  
  
In [51]: print(new_list)  
  
['Hello', 2, 4, 5, 6]  
  
In [ ]: 
```