

```
In [1]: # 1
        m=4
        n=4.0
        type(m),type(n)
```

```
Out[1]: (int, float)
```

```
In [2]: # 2
        x=13.94777777
        y=print(round(13.94777777,2))
        y
        if x==y:
            print('x is equal to y')
        else:
            print('x and y are unequal')
```

```
13.95
x and y are unequal
```

```
In [3]: # 3
        text='If you have the power to make someone happy, do it. The world needs more of that.'
        r=text.replace('a','e',3)
        print(r)
```

```
If you heve the power to meke someone heppy, do it. The world needs more of that.
```

```
In [4]: # 4
v='Hi that that that Bye'
v.count('that')
```

Out[4]: 3

```
In [5]: # 5 Sum a List of numbers in Python
z={'q':1,'w':2,'e':3}
o=z.values()
o
H=sum(o)
print(H)
```

6

```
In [6]: # 6 How to check if a key exists in a Python dictionary
R={'key1':1,'key2':2,'key3':[3,'c']}
key_to_lookup='key4'
if key_to_lookup in R:
    print("Key exists")
else:
    print("Key does not exist")
```

Key does not exist


```
In [12]: # 8
list4 = [10, 20, [300, 400, 500], 30, 40]
list4[2]
list4[2].append([6000,7000])
list4
```

```
Out[12]: [10, 20, [300, 400, 500, [6000, 7000]], 30, 40]
```

```
In [13]: # 8
lis = [10, 20, [300, 400, 500], 30, 40]
lis+[6000,7000]
```

```
Out[13]: [10, 20, [300, 400, 500], 30, 40, 6000, 7000]
```

```
In [15]: # 9
cities = ["New York", "Shanghai", "Munich", "Toyko", "Dubai", ""]
print ([city for city in cities if len (city) > 0])

['New York', 'Shanghai', 'Munich', 'Toyko', 'Dubai']
```

```
In [14]: # 9
# [x for x in List if condition]
cities = ["New York", "Shanghai", "", "Munich", "Toyko", "Dubai", ""]
without_empty_strings = [string for string in cities if string != ""]
print(without_empty_strings)

['New York', 'Shanghai', 'Munich', 'Toyko', 'Dubai']
```

```
In [25]: # 9
def g(s):
    if len(s) == 0:
        return False
    return True
cities = ["New York", "Shanghai", "", "Munich", "Toyko", "Dubai", ""]
list(filter(g,cities))
```

```
Out[25]: ['New York', 'Shanghai', 'Munich', 'Toyko', 'Dubai']
```

```
In [29]: # 9
cities = ["New York", "Shanghai", "", "Munich", "Toyko", "Dubai", ""]
list(filter(lambda x: len(x), cities))
```

```
Out[29]: ['New York', 'Shanghai', 'Munich', 'Toyko', 'Dubai']
```

```
In [30]: cities = ["New York", "Shanghai", "", "Munich", "Toyko", "Dubai", ""]
list(filter(lambda x: len(x)==0, cities))
```

```
Out[30]: ['', '']
```

```
In [31]: # 10
a=10
b=20
c=a>b
print(c)
```

```
False
```

```
In [31]: # 10  
a=10  
b=20  
c=a>b  
print(c)  
  
False
```

```
In [32]: type(c),type(0)
```

```
Out[32]: (bool, int)
```

```
In [100]: # 11
def f(s,index):
    if len(s) < index:
        return "index is larger than string size"
    return "index is smaller than string size"
print(f('abc',3))
```

index is smaller than string size

```
In [102]: def f(s,index):
    letter=s[index]
    if letter in ['a','e','i','o','u']:
        return 'index letter is vowel'
    return 'index letter is not vowel'
print(f('abcd',3))
```

index letter is not vowel