

```
In [1]: ##### welcome to First class of coding Python #####
```

```
In [2]: print("hello world")
```

```
hello world
```

```
In [3]: type("hello world")
```

```
Out[3]: str
```

```
In [4]: print('hello world')
```

```
hello world
```

```
In [5]: print(hello world)
```

```
File "C:\Users\RISHOB\AppData\Local\Temp\ipykernel_7016\2497053111.py", line 1
    print(hello world)
          ^
SyntaxError: invalid syntax
```

```
In [9]: type('a')
```

```
Out[9]: str
```

```
In [7]: a = 5 and a==5
```

```
In [8]: type(a)
```

```
Out[8]: int
```

```
In [10]: range(10)
```

```
Out[10]: range(0, 10)
```

```
In [11]: type(a==5)
```

```
Out[11]: bool
```

```
In [12]: range(10)
```

```
Out[12]: range(0, 10)
```

```
In [13]: list(range(10))
```

```
Out[13]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
In [1]: list(range(3,10)) ## list munbers from 3-9
```

```
Out[1]: [3, 4, 5, 6, 7, 8, 9]
```

```
In [2]: list(range(3,10,2)) ## list munbers from 3-9 by skipping 1 number in between
```

```
Out[2]: [3, 5, 7, 9]
```

```
In [3]: list(range(10,3)) ## it gives an empty list
```

Out[3]: []

In [4]: `list(range(3,10,-1))`

Out[4]: []

In [5]: `list(range(3,10,0.5))`

```
-----
TypeError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_8692\354591385.py in <module>
----> 1 list(range(3,10,0.5))

TypeError: 'float' object cannot be interpreted as an integer
```

In [7]: `list(range(3.5,10.5))`

```
-----
TypeError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_8692\1585570156.py in <module>
----> 1 list(range(3.5,10.5))

TypeError: 'float' object cannot be interpreted as an integer
```

In [8]: `list(range(-10,-3))`

Out[8]: [-10, -9, -8, -7, -6, -5, -4]

In [9]: `type(3.567894)`

Out[9]: float

In [10]: `list(range(10,3,-1))`

Out[10]: [10, 9, 8, 7, 6, 5, 4]

In [11]: `list(range(10,3,-2))`

Out[11]: [10, 8, 6, 4]

In [12]: `list(range(10,3))`

Out[12]: []

In [13]: `"rishob"+"ghosh"`

Out[13]: 'rishobghosh'

In [14]: `a = input("enter a number")`

enter a number3

In [15]: `a`

Out[15]: '3'

In [16]: `type(a)`

Out[16]: str

```
In [19]: num1 = input("enter 1st number ")
num2 =input("enter 2nd number ")

sum = num1 + num2
print(sum)
```

```
enter 1st number 52
enter 2nd number 78
5278
```

```
In [20]: num1 = int(input("enter 1st number "))
num2 =int(input("enter 2nd number "))

sum = num1 + num2
print(sum)
```

```
enter 1st number 52
enter 2nd number 78
130
```

```
In [26]: num1 = float(input("enter 1st number "))
num2 =float(input("enter 2nd number "))

sum = num1 + num2
print(sum)
```

```
enter 1st number 54582.32564
enter 2nd number 524879.3254
579461.65104
```

```
In [22]: print("sum")
```

```
sum
```

```
In [23]: print(sum)
```

```
131.0088
```

```
In [24]: sum
```

```
Out[24]: 131.0088
```

```
In [25]: ##### Design a basic calculator by in puting numbers from users #####
```

```
In [33]: num1 = float(input("Enter 1st Number "))
num2 = float(input("Enter 2nd Number "))

sum = num1 + num2
diff = num1 - num2
mult = num1 * num2
div = num1 / num2
mod = num1 % num2
flr = num1 // num2
pwr = num1**num2

print(sum)
print(diff)
print(mult)
print(div)
print(mod)
print(flr)
print(pwr)
```

```
Enter 1st Number 12
Enter 2nd Number 18
30.0
-6.0
216.0
0.6666666666666666
12.0
0.0
2.6623333280885244e+19
```

```
In [34]: a = 2
         a ** 2
```

```
Out[34]: 4
```

```
In [35]: pow(3,5)
```

```
Out[35]: 243
```

```
In [36]: "rishob " * 3
```

```
Out[36]: 'rishob rishob rishob '
```

```
In [37]: list("rishob")
```

```
Out[37]: ['r', 'i', 's', 'h', 'o', 'b']
```

```
In [38]: a = list("INDEPENDENCE")
```

```
In [39]: a ## or print(a)
```

```
Out[39]: ['I', 'N', 'D', 'E', 'P', 'E', 'N', 'D', 'E', 'N', 'C', 'E']
```

```
In [40]: len(a)
```

```
Out[40]: 12
```

```
In [41]: a[5]
```

```
Out[41]: 'E'
```

```
In [42]: a[11]
```

```
Out[42]: 'E'
```

```
In [43]: a[-2]
```

```
Out[43]: 'C'
```

```
In [44]: a[::2]
```

```
Out[44]: ['I', 'D', 'P', 'N', 'E', 'C']
```

```
In [45]: a[0:11:2]
```

```
Out[45]: ['I', 'D', 'P', 'N', 'E', 'C']
```

```
In [46]: a[-10:-1:2]
```

Out[46]: ['D', 'P', 'N', 'E', 'C']

In [47]: a[::-1]

Out[47]: ['E', 'C', 'N', 'E', 'D', 'N', 'E', 'P', 'E', 'D', 'N', 'I']

In [48]: a

Out[48]: ['I', 'N', 'D', 'E', 'P', 'E', 'N', 'D', 'E', 'N', 'C', 'E']

In [49]: b = a[::-1]

In [50]: b

Out[50]: ['E', 'C', 'N', 'E', 'D', 'N', 'E', 'P', 'E', 'D', 'N', 'I']

In [54]: a = "hello Rishob Ghosh"  
b = a[::-1]  
  
b ## or print(b)

Out[54]: 'hsohG bohsiR olleh'

In [56]: a = "Rishob"

In [57]: a[3]

Out[57]: 'h'

In [59]: len(a)

Out[59]: 6

In [60]: a[3] = 'm'

```
-----  
TypeError                                Traceback (most recent call last)  
~\AppData\Local\Temp\ipykernel_8692\2611069381.py in <module>  
----> 1 a[3] = 'm'  
  
TypeError: 'str' object does not support item assignment
```

In [61]: type(a)

Out[61]: str

In [62]: str\_to\_list = list(a)

In [63]: str\_to\_list

Out[63]: ['R', 'i', 's', 'h', 'o', 'b']

In [64]: str\_to\_list[3] = 'G'

In [65]: str\_to\_list

Out[65]: ['R', 'i', 's', 'G', 'o', 'b']

```
In [66]: empty_list = [] # create an empty list
```

```
In [67]: empty_list
```

```
Out[67]: []
```

```
In [68]: list_object = ["Romit",23.56,45,'m','Aakash',45,"Aakash",['Gautam','Anand','Anil']]
```

```
In [69]: list_object
```

```
Out[69]: ['Romit', 23.56, 45, 'm', 'Aakash', 45, 'Aakash', ['Gautam', 'Anand', 'Anil']]
```

```
In [70]: list_object[-1]
```

```
Out[70]: ['Gautam', 'Anand', 'Anil']
```

```
In [73]: list_object[-1][1]
```

```
Out[73]: 'Anand'
```

```
In [74]: list_object[-1][-1]
```

```
Out[74]: 'Anil'
```

```
In [75]: list_object[-1][2]
```

```
Out[75]: 'Anil'
```

```
In [76]: list_object.append("Rita")
```

```
In [77]: list_object
```

```
Out[77]: ['Romit',  
          23.56,  
          45,  
          'm',  
          'Aakash',  
          45,  
          'Aakash',  
          ['Gautam', 'Anand', 'Anil'],  
          'Rita']
```

```
In [78]: list_object.insert(3,"Rishob")
```

```
In [79]: list_object
```

```
Out[79]: ['Romit',  
          23.56,  
          45,  
          'Rishob',  
          'm',  
          'Aakash',  
          45,  
          'Aakash',  
          ['Gautam', 'Anand', 'Anil'],  
          'Rita']
```

```
In [ ]: ### Task for today  
        ### LIST = [2,3,4,5,6,7,8,9,123,13,14,15,16]
```

```
### I want ALL my even number is one List and all my odd number in Another List
```

```
In [80]: num_list = [2,3,4,5,6,7,8,9,123,13,14,15,16]
```

```
In [81]: num_list
```

```
Out[81]: [2, 3, 4, 5, 6, 7, 8, 9, 123, 13, 14, 15, 16]
```

```
In [82]: type(num_list)
```

```
Out[82]: list
```

```
In [89]: a = []  
b = []
```

```
In [91]: for i in range(len(num_list)):  
    if (num_list[i] % 2 == 0):  
        a.append(num_list[i])  
    else:  
        b.append(num_list[i])
```

```
In [92]: a,b
```

```
Out[92]: ([2, 4, 6, 8, 14, 16], [3, 5, 7, 9, 123, 13, 15])
```

```
In [93]: len(num_list)
```

```
Out[93]: 13
```

```
In [94]: c = []  
d = []
```

```
In [95]: for i in num_list:  
    if (i % 2 == 0):  
        c.append(i)  
    else:  
        d.append(i)
```

```
In [96]: c
```

```
Out[96]: [2, 4, 6, 8, 14, 16]
```

```
In [97]: d
```

```
Out[97]: [3, 5, 7, 9, 123, 13, 15]
```

```
In [98]: 'a' in "anand"
```

```
Out[98]: True
```

```
In [99]: list_object
```

```
Out[99]: ['Romit',  
          23.56,  
          45,  
          'Rishob',  
          'm',  
          'Aakash',  
          45,  
          'Aakash',  
          ['Gautam', 'Anand', 'Anil'],  
          'Rita']
```

```
In [100]: 'Aakash' in list_object
```

```
Out[100]: True
```

```
In [101]: str_obj = "ahdhahfodhfohffhnkekeifhedvdheiiqwjphehfprhguhonlcnzmcjohfomlcbdsch112"
```

```
In [103]: str_obj.find('m') ## index of the first occurrence
```

```
Out[103]: 53
```

```
In [104]: str_obj.find('3') ## if it doesnot exist it will give -1
```

```
Out[104]: -1
```

```
In [106]: str_obj.split('p')
```

```
Out[106]: ['ahdhahfodhfohffhnkekeifhedvdheiiqwj',  
          'h',  
          'ehf',  
          'rhguhonlcnzmcjohfomlcbdsch112',  
          'eadjq09ru',  
          'ej',  
          '222eu2u']
```

```
In [107]: str_obj.partition('p')
```

```
Out[107]: ('ahdhahfodhfohffhnkekeifhedvdheiiqwj',  
          'p',  
          'hpehfprhguhonlcnzmcjohfomlcbdsch112peadjq09rupejp222eu2u')
```

```
In [108]: e = str_obj.split('p')
```

```
In [109]: e
```

```
Out[109]: ['ahdhahfodhfohffhnkekeifhedvdheiiqwj',  
          'h',  
          'ehf',  
          'rhguhonlcnzmcjohfomlcbdsch112',  
          'eadjq09ru',  
          'ej',  
          '222eu2u']
```

```
In [110]: e[-1]
```

```
Out[110]: '222eu2u'
```

```
In [111]: text = "India Is My Country"
```

```
In [112]: text.center(50, '*')
```



Out[112]: '\*\*\*\*\*India Is My Country\*\*\*\*\*'

In [113... `text[::-1]`

Out[113]: 'yrtnuoC yM sI aidnI'

In [114... `text`

Out[114]: 'India Is My Country'

In [116... `s = [1,2,3,4,5,5]`

In [117... `s.append([3,4,5,6,7])` *## appending a list inside a list*

In [118... `s`

Out[118]: [1, 2, 3, 4, 5, 5, [3, 4, 5, 6, 7]]

In [119... `s.append(['Kumar',53,'Hello'])`

In [120... `s`

Out[120]: [1, 2, 3, 4, 5, 5, [3, 4, 5, 6, 7], ['Kumar', 53, 'Hello']]

In [121... `s.extend([6,7,8,9,'Rita'])` *## wraps up the data and then insert it*

In [122... `s`

Out[122]: [1, 2, 3, 4, 5, 5, [3, 4, 5, 6, 7], ['Kumar', 53, 'Hello'], 6, 7, 8, 9, 'Rita']

In [123... `var = input('Please input your name')`

Please input your nameRishob Ghosh

In [124... `'My name is {}'.format(var)`

Out[124]: 'My name is Rishob Ghosh'

In [125... `print("my name is ", var)`

my name is Rishob Ghosh

In [126... `list(34)`

```
-----
TypeError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_8692\714517811.py in <module>
----> 1 list(34)

TypeError: 'int' object is not iterable
```

In [127... `a = [1,2,3,4,5,6,7,8]`  
`b = ["Rishob","Romit","Rita","Rajesh"]`  
`c = [23.45,45,67,89,30]`  
`d = [a,b,c]`

In [128... `d`

```
Out[128]: [[1, 2, 3, 4, 5, 6, 7, 8],  
          ['Rishob', 'Romit', 'Rita', 'Rajesh'],  
          [23.45, 45, 67, 89, 30]]
```

```
In [129... d[1][-2]
```

```
Out[129]: 'Rita'
```

```
In [130... d[2][1]
```

```
Out[130]: 45
```

```
In [131... list_num = [24,45,67,32,67,90]
```

```
In [132... [i * 2 for i in list_num]
```

```
Out[132]: [48, 90, 134, 64, 134, 180]
```

```
In [133... list_num
```

```
Out[133]: [24, 45, 67, 32, 67, 90]
```

```
In [134... x = [i * 2 for i in list_num]
```

```
In [135... x
```

```
Out[135]: [48, 90, 134, 64, 134, 180]
```

```
In [ ]:
```