

In [2]:

```
print(True,False)
```

True False

In [3]:

```
type(True)
```

Out[3]:

bool

In [6]:

```
my_str="Urmila Narvade"
```

In [7]:

```
my_str.istitle()
```

Out[7]:

True

In [8]:

```
print(my_str.isalnum()) #check if all char are numbers
print(my_str.isalpha()) #check if all char in the string are alphabetic
print(my_str.isdigit()) #test if string contains digits
print(my_str.istitle()) #test if string contains title words
print(my_str.isupper()) #test if string contains upper case
print(my_str.islower()) #test if string contains lower case
print(my_str.isspace()) #test if string contains spaces
print(my_str.endswith('k')) #test if string ends with a d
print(my_str.startswith('K')) #test if string startswith H
```

False

False

False

True

False

False

False

False

False

Boolean and Logical Operator

In [9]:

```
True and True
```

Out[9]:

True

In [10]:

```
True and False
```

Out[10]:

```
False
```

In [11]:

```
True or False
```

Out[11]:

```
True
```

In [12]:

```
True or True
```

Out[12]:

```
True
```

In [21]:

```
str_example='Hello World'  
my_str='Urmila'
```

In [22]:

```
my_str.isalpha() or str_example.isnum()
```

Out[22]:

```
True
```

Lists

In [24]:

```
type([])
```

Out[24]:

```
list
```

In [25]:

```
list_example=[]
```

In [26]:

```
type(list_example)
```

Out[26]:

```
list
```

In [27]:

```
list=['maths','machine',100,200,4,5]
```

In [28]:

```
len(list)
```

Out[28]:

6

In [29]:

```
type(list)
```

Out[29]:

list

Append

In [30]:

```
# append is used to add the items in the list  
list.append("Urmila")
```

In [32]:

```
list.append(["Kakasaheb","Naravade"])
```

In [33]:

```
list
```

Out[33]:

```
['maths', 'machine', 100, 200, 4, 5, 'Urmila', ['Kakasaheb', 'Naravade']]
```

In [35]:

```
# indexing in the list  
list[6]
```

Out[35]:

```
'Urmila'
```

In [36]:

```
list[1:6]
```

Out[36]:

```
['machine', 100, 200, 4, 5]
```

Insert

In [37]:

```
# insert the specific order
list.insert(2,"AI")
```

In [38]:

```
list
```

Out[38]:

```
['maths', 'machine', 'AI', 100, 200, 4, 5, 'Urmila', ['Kakasaheb', 'Naravade']]
```

In [40]:

```
list.append(["Hello", "World"])
```

In [41]:

```
list
```

Out[41]:

```
['maths',
 'machine',
 'AI',
 100,
 200,
 4,
 5,
 'Urmila',
 ['Kakasaheb', 'Naravade'],
 ['Hello', 'World']]
```

In [42]:

```
list=[1,2,3]
```

In [43]:

```
list.append([4,5])
```

In [44]:

```
list
```

Out[44]:

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

Extend Method

In [45]:

```
list=[1,2,3,4,5,6]
```

In [46]:

```
list.extend([8,9])
```

In [47]:

```
list
```

Out[47]:

```
[1, 2, 3, 4, 5, 6, 8, 9]
```

In [48]:

```
list=[1,2,3,4,5]
```

In [51]:

```
sum(list)
```

Out[51]:

```
15
```

In [52]:

```
list*5
```

Out[52]:

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

pop() method

In [53]:

```
list.pop()
```

Out[53]:

```
5
```

In [54]:

```
list
```

Out[54]:

```
[1, 2, 3, 4]
```

In [55]:

```
list.pop(0)
```

Out[55]:

```
1
```

In [56]:

```
list
```

Out[56]:

```
[2, 3, 4]
```

count(): Calculates total occurrence of given element of List

In [57]:

```
list=[1,1,2,3,4,5]  
list.count(1)
```

Out[57]:

```
2
```

In [58]:

```
#Length:Caliculates total Length of List  
len(list)
```

Out[58]:

```
6
```

In [59]:

```
# index(): Returns the index of first occurrence. Start and End index are not necessary par  
list.index(1,1,4)
```

Out[59]:

```
1
```

In [60]:

```
min(list)
```

Out[60]:

```
1
```

In [61]:

```
max(list)
```

Out[61]:

```
5
```

SETS

In [62]:

```
set_var= set()
print(set_var)
print(type(set_var))
```

```
set()
<class 'set'>
```

In [63]:

```
set_var={1,2,3,4,3}
```

In [64]:

```
set_var
```

Out[64]:

```
{1, 2, 3, 4}
```

In [65]:

```
set_var={"Avengers","IronMan",'Hitman'}
print(set_var)
type(set_var)
```

```
{'Avengers', 'IronMan', 'Hitman'}
```

Out[65]:

```
set
```

In [67]:

```
## Inbuilt function in sets
```

```
set_var.add("Hulk")
```

In [68]:

```
print(set_var)
```

```
{'Avengers', 'IronMan', 'Hitman', 'Hulk'}
```

In [69]:

```
set1={"Avengers","IronMan",'Hitman'}
set2={"Avengers","IronMan",'Hitman','Hulk2'}
```

In [70]:

```
set2.intersection_update(set1)
```

In [71]:

```
set2
```

Out[71]:

```
{'Avengers', 'Hitman', 'IronMan'}
```

In [72]:

```
set2.intersection_update(set1)
```

In [73]:

```
print(set2)
```

```
{'Avengers', 'IronMan', 'Hitman'}
```

Dictionaries

In [74]:

```
dic={}
```

In [75]:

```
type(dic)
```

Out[75]:

```
dict
```

In [77]:

```
set_ex={1,2,3,4,5}
```

In [78]:

```
type(set_ex)
```

Out[78]:

```
set
```

In [79]:

```
my_dict={"Car1": "Audi", "Car2":"BMW","Car3":"Mercedes Benz"}
```

In [80]:

```
type(my_dict)
```

Out[80]:

```
dict
```


In [81]:

```
##Access the item values based on keys  
  
my_dict['Car1']
```

Out[81]:

'Audi'

In [82]:

```
# We can even loop throught the dictionaries keys  
  
for x in my_dict:  
    print(x)
```

Car1
Car2
Car3

In [85]:

```
# We can even loop throught the dictionaries keys  
  
for x in my_dict.values():  
    print(x)
```

Audi
BMW
Mercidies Benz

In [86]:

```
for x in my_dict.items():  
    print(x)
```

('Car1', 'Audi')
('Car2', 'BMW')
('Car3', 'Mercidies Benz')

In [87]:

```
## Adding items in Dictionaries  
  
my_dict['car4']='Audi 2.0'
```

In [88]:

```
my_dict
```

Out[88]:

```
{'Car1': 'Audi', 'Car2': 'BMW', 'Car3': 'Mercidies Benz', 'car4': 'Audi 2.  
0'}
```

In [89]:

```
my_dict['Car1']='MARuti'
```

In [90]:

```
my_dict
```

Out[90]:

```
{'Car1': 'MAruti', 'Car2': 'BMW', 'Car3': 'Mercedes Benz', 'car4': 'Audi 2.0'}
```

Nested Dictionary

In [91]:

```
car1_model={'Mercedes':1960}
car2_model={'Audi':1970}
car3_model={'Ambassador':1980}

car_type={'car1':car1_model,'car2':car2_model,'car3':car3_model}
```

In [92]:

```
print(car_type)
```

```
{'car1': {'Mercedes': 1960}, 'car2': {'Audi': 1970}, 'car3': {'Ambassador': 1980}}
```

In [93]:

```
## Accessing the items in the dictionary
```

```
print(car_type['car1'])
```

```
{'Mercedes': 1960}
```

In [94]:

```
print(car_type['car1']['Mercedes'])
```

```
1960
```

Tuples

In [95]:

```
## create an empty Tuples
```

```
my_tuple=tuple()
```

In [96]:

```
type(my_tuple)
```

Out[96]:

```
tuple
```

In [110]:

```
my_tuple=("Urmila","Ankur","John")
```

In [103]:

```
my_tuple=('Hello','World')
```

In [104]:

```
print(type(my_tuple))  
print(my_tuple)
```

```
<class 'tuple'>  
( 'Hello', 'World' )
```

In [105]:

```
type(my_tuple)
```

Out[105]:

tuple

In [112]:

```
## Inbuilt function  
my_tuple.count("Urmila")
```

Out[112]:

1

In [111]:

```
my_tuple.index('Ankur')
```

Out[111]:

1