ASSIGNMENT 3

LIST AND FUNCTIONS

1] APPEND

In [1]:
```
random_numbers = [12, 23, 45, 66, 56]
random_numbers.append(15)          #Adds an element at the end of the list
random_numbers
```
executed in 18ms, finished 19:33:30 2021-10-20

In [5]:
```
random_names=["rohit","rahul","kohli","pant"]
random_names.append("dhoni")
random_names
```
executed in 17ms, finished 19:37:37 2021-10-20

Out[5]:
```
['rohit', 'rahul', 'kohli', 'pant', 'dhoni']
```

2] CLEAR

In [6]:
```
string_1=["python","c","c++","java"]
string_1.clear()
string_1                    #Removes all the elements from the list
```
executed in 18ms, finished 19:45:12 2021-10-20

Out[6]:
```
[]
```

In [7]:
```
string_2 =[12,34,56,78,966]
string_2.clear()
string_2
```
executed in 18ms, finished 19:46:03 2021-10-20

Out[7]:
```
[]
```

3] COPY

In [8]:
```
list_1=[12,"shashank",37,"kumar"]
new_list_1=list_1.copy()         #Returns a copy of the list
new_list_1
```
executed in 16ms, finished 19:52:58 2021-10-20

Out[8]:
```
[12, 'shashank', 37, 'kumar']
```

In [9]:
```
list_2 =["pradeep",90,"naveen",99]
new_list_2 = list_2.copy()
new_list_2
```
executed in 10ms, finished 19:54:14 2021-10-20

Out[9]:
```
['pradeep', 90, 'naveen', 99]
```

4] COUNT

In [14]:
```
list_1=[12,34,54,65,34,5,77,87,77,98,77,56,77,34,77]
list_1.count(77)           #Returns the number of elements with the specified val
```
executed in 19ms, finished 19:58:59 2021-10-20

Out[14]:
```
5
```

In [15]:
```
list_2=['sam','tom','jerry','tom','mouse']
list_2.count("tom")
```
executed in 16ms, finished 19:59:00 2021-10-20

Out[15]:
```
2
```

5] EXTEND

In [22]:
```
prime_numbers=[2,3,5,7,11]
numbers=[13,17,19]
prime_numbers.extend(numbers)
prime_numbers               #Add the elements of a list (or any iterable), to the
```
executed in 19ms, finished 20:04:07 2021-10-20

Out[22]:
```
[2, 3, 5, 7, 11, 13, 17, 19]
```

In [25]:
```
csk =['dhoni','jadeja','thakur']
mi  =['rohit','suryakumar','bumrah']
csk.extend(mi)
print("The indian team : ",csk)
```
executed in 18ms, finished 20:10:19 2021-10-20

```
The indian team :  ['dhoni', 'jadeja', 'thakur', 'rohit', 'suryakumar', 'bumra
h']
```

6] INDEX

In [26]:
```
vowels =['a','e','i','o','u','u']
vowels.index('u')              #Returns the index of the first element with the
```
executed in 15ms, finished 20:32:42 2021-10-20

Out[26]:
```
4
```

In [27]:
```
odd_numbers=[3,5,7,9,11,13,15,17,19,21,23,25,27,29,31]
odd_numbers.index(19)
```
executed in 7ms, finished 20:38:16 2021-10-20

Out[27]: 8

7] INSERT

In [29]:
```
squares=[1,4,9,25,36]
squares.insert(3,16)
squares                    #Adds an element at the specified position
```
executed in 12ms, finished 20:41:18 2021-10-20

Out[29]: [1, 4, 9, 16, 25, 36]

In [30]:
```
cubes =[1,8,27,64,125,343,512]
cubes.insert(5,216)
cubes
```
executed in 16ms, finished 20:43:17 2021-10-20

Out[30]: [1, 8, 27, 64, 125, 216, 343, 512]

8] POP

In [31]:
```
directions =['north','south','west','east','northeast','southwest']
directions.pop(3)        #Removes the element at the specified position
```
executed in 15ms, finished 20:53:03 2021-10-20

Out[31]: 'east'

In [32]:
```
even_numbers=[2,4,6,8,10,12,14,16,18,20]
even_numbers.pop(7)
```
executed in 6ms, finished 20:55:08 2021-10-20

Out[32]: 16

9] REMOVE

In [35]:
```
random_numbers=[2,34,65,76,87,3,56,90]
random_numbers.remove(56)
random_numbers                    #Removes the first item with the specified value
```
executed in 9ms, finished 22:16:48 2021-10-20

Out[35]: [2, 34, 65, 76, 87, 3, 90]

In [36]:
```
random_alpha=['q','w','r','t','y','a']
random_alpha.remove('t')
random_alpha
```
executed in 16ms, finished 22:18:29 2021-10-20

Out[36]:
```
['q', 'w', 'r', 'y', 'a']
```

10] REVERSE

In [37]:
```
prime_numbers=[2,3,5,7,11,13,17]
prime_numbers.reverse()
prime_numbers            #Reverses the order of the list
```
executed in 11ms, finished 22:23:24 2021-10-20

Out[37]:
```
[17, 13, 11, 7, 5, 3, 2]
```

In [38]:
```
grocery_store=['milk','bread','honey','almonds','cashew']
grocery_store.reverse()
grocery_store
```
executed in 10ms, finished 22:28:49 2021-10-20

Out[38]:
```
['cashew', 'almonds', 'honey', 'bread', 'milk']
```

11] SORT

In [3]:
```
ordered_numbers=[78,564,98,36,25,675,345]
ordered_numbers.sort()
ordered_numbers              #Sorts the list
```
executed in 12ms, finished 11:24:51 2021-10-21

Out[3]:
```
[25, 36, 78, 98, 345, 564, 675]
```

In [4]:
```
ordered_alpha=['u','z','a','c','g','s','f']
ordered_alpha.sort(reverse=True)
ordered_alpha
```
executed in 7ms, finished 11:32:03 2021-10-21

Out[4]:
```
['z', 'u', 's', 'g', 'f', 'c', 'a']
```

TUPLE FUNCTONS

1] COUNT

In [6]:
```
tuple_1=(9,4,5,6,4,7,4,8,4,5,7,6,4,8,5,4)
tuple_1.count(4)         #Returns the number of elements with the specified value
```
executed in 14ms, finished 12:22:19 2021-10-21

Out[6]:
```
6
```

In [7]:
```
tuple_2=('s','e','w','i','u','s','e','s','q','s')
tuple_2.count('s')
```
executed in 16ms, finished 12:26:45 2021-10-21

Out[7]: 4

2] INDEX

In [8]:
```
odd_numbers=(5,7,9,11,13,15,17,19,21,23,25,27,29,31)
odd_numbers.index(19)          #Returns the index of the first element with the sp
```
executed in 15ms, finished 12:29:19 2021-10-21

Out[8]: 7

In [9]:
```
colours=('pink','yellow','blue','white','orange','green')
colours.index('white')
```
executed in 19ms, finished 12:31:22 2021-10-21

Out[9]: 3

SET FUNCTIONS

1] ADD

In [5]:
```
numbers={4,6,8,12,34,56}
numbers.add(77)
numbers                    #Adds an element to the set
```
executed in 12ms, finished 11:41:04 2021-10-21

Out[5]: {4, 6, 8, 12, 34, 56, 77}

In [6]:
```
letters={'r','s','m','e','j'}
letters.add('asdfg')
letters
```
executed in 15ms, finished 11:42:11 2021-10-21

Out[6]: {'asdfg', 'e', 'j', 'm', 'r', 's'}

2]CLEAR

In [8]:
```
random_numbers={2,34,56,789,674,343,5453,65}
random_numbers.clear()
random_numbers                #Removes all the elements from the set
```
executed in 14ms, finished 11:43:26 2021-10-21

Out[8]: set()

In [9]:
```
random_letters={'w','e','t','w','m','i'}
random_letters.clear()
random_letters
```
executed in 4ms, finished 11:44:56 2021-10-21

Out[9]: set()

3]COPY

In [1]:
```
set_1={34,65,7,6,45,23,66}
new_set_1=set_1.copy()
new_set_1                    #Returns a copy of the set
```
executed in 21ms, finished 12:06:54 2021-10-21

Out[1]: {6, 7, 23, 34, 45, 65, 66}

In [2]:
```
set_2={'sing','in ','the','rain'}
new_set_2=set_2.copy()
new_set_2
```
executed in 19ms, finished 12:08:35 2021-10-21

Out[2]: {'in ', 'rain', 'sing', 'the'}

4] DIFFERENCE

In [3]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
print(a.difference(b))    # Returns a set containing the difference between two c
```
executed in 9ms, finished 12:12:08 2021-10-21

```
{'r', 'e', 'a', 't'}
```

In [4]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
print(b.difference(a))
```
executed in 5ms, finished 12:12:30 2021-10-21

```
{'h', 'k', 'l'}
```

5] DIFFERENCE_UPDATE

In [11]:
```
A = {'a', 'c', 'g', 'd'}
B = {'c', 'f', 'g'}
A.difference_update(B)
A                           #Removes the items in this set that are also included i
```
executed in 18ms, finished 14:03:03 2021-10-21

Out[11]: {'a', 'd'}

In [12]:
```
A = {'a', 'c', 'g', 'd'}
B = {'c', 'f', 'g'}
B.difference_update(A)
B
```

executed in 10ms, finished 14:04:02 2021-10-21

Out[12]:
```
{'f'}
```

6] DISCARD

In [14]:
```
numbers={2,5,4,6,7,4,87,534,54534}
numbers.discard(87)
numbers              #Remove the specified item
```

executed in 17ms, finished 14:07:07 2021-10-21

Out[14]:
```
{2, 4, 5, 6, 7, 534, 54534}
```

In [15]:
```
prime_numbers={2,3,5,7,9,11,13,17}
prime_numbers.discard(9)
prime_numbers
```

executed in 9ms, finished 14:09:45 2021-10-21

Out[15]:
```
{2, 3, 5, 7, 11, 13, 17}
```

7] INTERSECTION

In [16]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
print(a.intersection(b))    # Returns a set, that is the intersection of two or m
```

executed in 15ms, finished 14:10:48 2021-10-21

```
{'p', 'u'}
```

In [17]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
print(b.intersection(a))
```

executed in 14ms, finished 14:11:32 2021-10-21

```
{'p', 'u'}
```

8] INTERSECTION_UPDATE

In [24]:
```
a={2,3,5,7,8,5,6,8,3}
b={3,34,54,8,54,6,1,90}
c={2,3,45,54,89,90,8}
a.intersection_update(b)  #Removes the items in this set that are not present in
a
```

executed in 16ms, finished 14:17:07 2021-10-21

Out[24]: {3, 6, 8}

In [23]:
```
a={2,3,5,7,8,5,6,8,3}
b={3,34,54,8,54,6,1,90}
c={2,3,45,54,89,90,8}
c.intersection_update(b)
c
```

executed in 6ms, finished 14:16:53 2021-10-21

Out[23]: {3, 8, 54, 90}

9] ISDISJOINT

In [27]:
```
a={2,3,5,7,4,9,6,0}
b={23,4456,7434,75,843,77,54}
c={12,34,5,864,567,23}
a.isdisjoint(b)          #Returns whether two sets have a intersection or not
```

executed in 7ms, finished 14:23:42 2021-10-21

Out[27]: True

In [28]:
```
a={2,3,5,7,4,9,6,0}
b={23,4456,7434,75,843,77,54}
c={12,34,5,864,567,23}
a.isdisjoint(c)
```

executed in 10ms, finished 14:23:43 2021-10-21

Out[28]: False

10] ISSUBSET

In [29]:
```
a={234,345,456,567,678}
b={234,345,456,567,678,789,890,901}
c={342,453,564,675,786}
a.issubset(b)        #Returns whether two sets have a intersection or not
```

executed in 5ms, finished 14:27:53 2021-10-21

Out[29]: True

In [30]:
```
a={234,345,456,567,678}
b={234,345,456,567,678,789,890,901}
c={342,453,564,675,786}
a.issubset(c)
```
executed in 15ms, finished 14:28:06 2021-10-21

Out[30]: False

11] ISSUPERSET

In [31]:
```
a={234,345,456,567,678}
b={234,345,456,567,678,789,890,901}
c={342,453,564,675,786}
a.issuperset(b)          #Returns whether this set contains another set or not
```
executed in 18ms, finished 14:28:43 2021-10-21

Out[31]: False

In [33]:
```
a={234,345,456,567,678}
b={234,345,456,567,678,789,890,901}
c={342,453,564,675,786}
b.issuperset(a)
```
executed in 10ms, finished 14:29:08 2021-10-21

Out[33]: True

12]POP

In [36]:
```
a={234,345,456,567,678}
a.pop()          #Removes an element from the set
```
executed in 5ms, finished 14:30:25 2021-10-21

Out[36]: 678

In [37]:
```
b={234,345,456,567,678,789,890,901}
b.pop()
```
executed in 11ms, finished 14:30:55 2021-10-21

Out[37]: 901

13] REMOVE

In [40]:
```
random_names={"rohit","rahul","kohli","pant"}
random_names.remove("pant")
random_names       #Removes the specified element
```
executed in 11ms, finished 14:32:34 2021-10-21

Out[40]: {'kohli', 'rahul', 'rohit'}

In [42]:
```
series={11,22,33,44,55,66,77,88,234,99}
series.remove(234)
series
```
executed in 16ms, finished 14:35:29 2021-10-21

Out[42]: {11, 22, 33, 44, 55, 66, 77, 88, 99}

14] UNION

In [43]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
print(a.union(b))      #Return a set containing the union of sets
```
executed in 16ms, finished 14:37:17 2021-10-21

```
{'u', 'e', 't', 'l', 'h', 'p', 'r', 'k', 'a'}
```

In [44]:
```
a={'a','r','e','t','u','p'}
b={'p','l','k','u','h'}
c={'f','w','e','y','u','q'}
print(c.union(b))
```
executed in 10ms, finished 14:39:03 2021-10-21

```
{'f', 'u', 'e', 'w', 'l', 'h', 'q', 'p', 'y', 'k'}
```

15] UPDATE

In [46]:
```
A = {'a', 'b'}
B = {1, 2, 3,56,78,45,879}
A.update(B)
A                          #Update the set with another set, or any other iterable
```
executed in 16ms, finished 14:41:43 2021-10-21

Out[46]: {1, 2, 3, 45, 56, 78, 879, 'a', 'b'}

In [47]:
```
string_alphabet = {'abc','key','lock'}
numbers_set = {1, 2,34,55,678}
string_alphabet.update(numbers_set)
string_alphabet
```
executed in 6ms, finished 14:47:30 2021-10-21

Out[47]: {1, 2, 34, 55, 678, 'abc', 'key', 'lock'}

DICTIONARY FUNCTIONS

1] CLEAR

In [52]:
```
dict_1={'name':'sangeeth','age':21,'passion':'cricket'}
dict_1.clear()
dict_1              #Removes all the elements from the dictionary
```
executed in 13ms, finished 18:29:08 2021-10-21

Out[52]:
```
{}
```

In [54]:
```
dict_2={1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
dict_2.clear()
dict_2
```
executed in 10ms, finished 18:30:12 2021-10-21

Out[54]:
```
{}
```

2] COPY

In [60]:
```
dict_1={1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
dict_2=dict_1.copy()    #Returns a copy of the dictionary
dict_2
```
executed in 6ms, finished 18:34:55 2021-10-21

Out[60]:
```
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

In [62]:
```
dict_2={'English':80, 'Math':100, 'Science': 90}
dict_1=dict_2.copy()
dict_1
```
executed in 14ms, finished 18:35:18 2021-10-21

Out[62]:
```
{'English': 80, 'Math': 100, 'Science': 90}
```

3] FROM KEYS

In [66]:
```
x=('key1','key2','key3')
y=0
new_dict=dict.fromkeys(x,y)
new_dict                    #Returns a dictionary with the specified keys and val
```
executed in 8ms, finished 18:44:35 2021-10-21

Out[66]:
```
{'key1': 0, 'key2': 0, 'key3': 0}
```

In [67]:
```
a=('shashank','chetan','shreyas','naga')
b=('present')
new_dict_2=dict.fromkeys(a,b)
new_dict_2
```
executed in 5ms, finished 18:44:35 2021-10-21

Out[67]:
```
{'shashank': 'present',
 'chetan': 'present',
 'shreyas': 'present',
 'naga': 'present'}
```

4] GET

In [72]:
```
a={'car':'BMW','bike':'ROYAL ENFIELD','cycle':'HERCULES','bus':'VOLVO'}
new_dict=a.get("cycle")
new_dict                #Returns the value of the specified key
```
executed in 9ms, finished 18:49:27 2021-10-21

Out[72]: 'HERCULES'

In [73]:
```
car = {"brand": "Ford","model": "Mustang","year": 1964}
X= car.get("model")
X
```
executed in 14ms, finished 18:49:28 2021-10-21

Out[73]: 'Mustang'

5] KEYS

In [79]:
```
x={'shashank': 'absent', 'chetan': 'present', 'shreyas': 'absent','naga': 'preser
y=x.keys()
y                    #Returns a list containing the dictionary's keys
```
executed in 18ms, finished 18:58:37 2021-10-21

Out[79]: dict_keys(['shashank', 'chetan', 'shreyas', 'naga'])

In [80]:
```
a={'car':'BMW','bike':'ROYAL ENFIELD','cycle':'HERCULES','bus':'VOLVO'}
b=a.keys()
b
```
executed in 19ms, finished 18:58:37 2021-10-21

Out[80]: dict_keys(['car', 'bike', 'cycle', 'bus'])

6] ITEMS

In [81]:
```
car = {"brand": "Ford","model": "Mustang","year": 1964}
car.items()          #Returns a list containing a tuple for each key value pair
```
executed in 7ms, finished 18:58:38 2021-10-21

Out[81]: dict_items([('brand', 'Ford'), ('model', 'Mustang'), ('year', 1964)])

In [82]:
```
bike = {"brand": "yamaha","model": "R15","year": 2010}
bike.items()
```
executed in 8ms, finished 18:58:39 2021-10-21

Out[82]: dict_items([('brand', 'yamaha'), ('model', 'R15'), ('year', 2010)])

7] POP

In [85]:
```
dict_1={1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
dict_1.pop(4)                    #Removes the element with the specified key
```
executed in 10ms, finished 19:00:40 2021-10-21

Out[85]: 16

In [86]:
```
dict_2={1:1,2:8,3:27,4:64,5:125}
dict_2.pop(2)
```
executed in 14ms, finished 19:02:02 2021-10-21

Out[86]: 8

8] POP ITEM

In [87]:
```
dict_1={1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
dict_1.popitem()              #Removes the last inserted key-value pair
```
executed in 16ms, finished 19:03:19 2021-10-21

Out[87]: (5, 25)

In [88]:
```
dict_2={1:1,2:8,3:27,4:64,5:125}
dict_2.popitem()
```
executed in 12ms, finished 19:03:39 2021-10-21

Out[88]: (5, 125)

9] VALUES

In [89]:
```
dict_1={1: 2, 2: 3, 3: 5, 4: 7, 5:11}
dict_1.values()                    #Returns a list of all the values in the dic
```
executed in 11ms, finished 19:05:49 2021-10-21

Out[89]: dict_values([2, 3, 5, 7, 11])

In [91]:
```
dict_2={1:11,2:22, 3:33, 4:44 , 5: 55}
dict_2.values()
```
executed in 10ms, finished 19:07:15 2021-10-21

Out[91]: dict_values([11, 22, 33, 44, 55])

10] UPDATE

In [96]:
```
car = {"brand": "Ford","model": "Mustang","year": 1964}
car.update({"color":"white"})
car                                #Updates the dictionary with the specified ke
```
executed in 11ms, finished 19:12:40 2021-10-21

Out[96]: {'brand': 'Ford', 'model': 'Mustang', 'year': 1964, 'color': 'white'}

In [95]:
```
x={'shashank': 'absent', 'chetan': 'present', 'shreyas': 'absent','naga': 'preser
x.update({"sangeeth":"present"})
x
```

executed in 6ms, finished 19:11:03 2021-10-21

Out[95]:
```
{'shashank': 'absent',
 'chetan': 'present',
 'shreyas': 'absent',
 'naga': 'present',
 'sangeeth': 'present'}
```

==========END==========

In [ ]: