In [ ]:

```
#concatenation is not possible
```

in

In [ ]:

```
#keys are imp
d1={'Ramesh':20,"Suresh":25,"Sathish":30}
for i in d1:
```

index

In [3]:

```
d1={'Ramesh':20,"Suresh":25,"Satish":30}
#Normal Index will not work for dictionary
#d1[0]#error
#if you want to retirve the value, by using key we can get
# d1['Ramesh']
# d1['Suresh']
# d1['Sathish']
# d1[i]
for i in d1:
    print(i,d1[i])
```

```
Ramesh 20
Suresh 25
Satish 30
```

In [6]:

```
names=['Ramesh','Suresh','Sathish']
age=[20,25,30]
for i,j in zip(names,age):
    print(f"{i} age is {j}")
```

```
Ramesh age is 20
Suresh age is 25
Sathish age is 30
```

In [7]:

```
d1={'Ramesh':20,"Suresh":25,"Sathish":30}
for i in d1:
    print(f'{i} age is {d1[i]}')
```

```
Ramesh age is 20
Suresh age is 25
Sathish age is 30
```

In [ ]:

```
d1={'Ramesh':20,"Suresh":25,"Sathish":30}
for i in d1:
    print(i) #only keys

for i in d1:
    print(i,d1[i]) #keys and values
```

In [8]:

```
d1,l1,s1={},[],''
s1=s1+'a' # ''+a
s1=s1+'b'
s1=s1+'c'
s1
```

Out[8]:

```
'abc'
```

In [13]:

```
l1=[]
l1.append(10)
l1.append(20)
l1
```

Out[13]:

```
[10, 20]
```

In [15]:

```
d1={}
d1['even']=[20,30,40]
d1['odd']=[31,33]
d1
```

Out[15]:

```
{'even': [20, 30, 40], 'odd': [31, 33]}
```

In [18]:

```
d1={}
name=input("enter the name: ")
city=input("enter the city: ")
age=eval(input("enter the age: "))
d1['NAME']=name
d1['CITY']=city
d1['AGE']=age
d1
```

```
enter the name: Aishwarya
enter the city: Bangalore
enter the age: 25
```

Out[18]:

```
{'NAME': 'Aishwarya', 'CITY': 'Bangalore', 'AGE': 25}
```

In [21]:

```
#wap ask the user generate 10 random numbers
#find the even number and odd number
#output:
#{'Even':[20,30,40],'odd':[35,45]}
#s1: import random
#s2: even_list,odd_list=[][]
#s3: for loop 10 times
#s4:  num=generate random number 10,100
#s5:  if<consition>:
#s6:     append the values in eve
#s7:  else:
#s8:     append the values in odd list
#s9: create dictionary


import random
even_list,odd_list=[],[]
d1={}
for i in range(0,10):
    num=random.randint(1,100)
    if num%2==0:
        even_list.append(num)
    else:
        odd_list.append(num)

d1['EVEN']=even_list
d1['ODD']=odd_list
d1
```

Out[21]:

```
{'EVEN': [34, 68, 16], 'ODD': [47, 65, 49, 29, 53, 11, 71]}
```

In [35]:

```
#word frequnecy
d1={}
s1='hello how how are you, hello how im good, hello how what are you doing
#{'hello':3,'how':4,.......}
l1=s1.split( )
l2=[]
for i in l1:
    if i not in l2:

        print(i,l1.count(i))
        l2.append(i)
```

```
hello 3
how 4
are 2
you, 1
im 1
good, 1
what 1
you 1
doing 1
```

In [37]:

```
#word frequnecy
d1={}
s1='hello how how are you, hello how im good, hello how what are you doing
#{'hello':3,'how':4,.......}
l1=s1.split( )
l2=[]
for i in l1:
    if i not in l2:

        d1[i]=l1.count(i) #key =i  value is l1.count[i]
        l2.append(i)
d1
#to make this dictionary
```

Out[37]:

```
{'hello': 3,
 'how': 4,
 'are': 2,
 'you,': 1,
 'im': 1,
 'good,': 1,
 'what': 1,
 'you': 1,
 'doing': 1}
```

In [39]:

```
d1={}
d1['hello']=3
d1[i]=l1.count(i)
d1
```

Out[39]:

```
{'hello': 3, 'doing': 1}
```

In [42]:

```
d1={'Fruits':['Apple','Banana']}
#Retrive Banana
d1['Fruits'][1]
```

Out[42]:

```
'Banana'
```

In [45]:

```
d1={'Fruits':[{'Apple':50},{'Banana':20}]}
d1['Fruits'][1]['Banana']
```

Out[45]:

```
20
```

In [49]:

```
d1={'Fruits':[{'Apple':[50,150,300]},{'Banana':20}]}
d1['Fruits'][0]['Apple'][2]
```

Out[49]:

```
300
```

In [60]:

```
d1={'Fruits':
    [{'Apple':[{50:'Noraml',150:'Average',300:'Good'}]},
    {'Banana':20}]}

d1['Fruits'][0]['Apple'][0][300]
```

Out[60]:

```
'Good'
```

Methods

```
In [62]: dir({})
```

```
Out[62]: ['__class__',
          '__class_getitem__',
          '__contains__',
          '__delattr__',
          '__delitem__',
          '__dir__',
          '__doc__',
          '__eq__',
          '__format__',
          '__ge__',
          '__getattribute__',
          '__getitem__',
          '__gt__',
          '__hash__',
          '__init__',
          '__init_subclass__',
          '__ior__',
          '__iter__',
          '__le__',
          '__len__',
          '__lt__',
          '__ne__',
          '__new__',
          '__or__',
          '__reduce__',
          '__reduce_ex__',
          '__repr__',
          '__reversed__',
          '__ror__',
          '__setattr__',
          '__setitem__',
          '__sizeof__',
          '__str__',
          '__subclasshook__',
          'clear',
          'copy',
          'fromkeys',
          'get',
          'items',
          'keys',
          'pop',
          'popitem',
          'setdefault',
          'update',
          'values']
```

In [ ]:

```
'clear',
 'copy',
 'fromkeys',
 'get',
 'items',
 'keys',
 'pop',
 'popitem',
 'setdefault',
 'update',
 'values'
```

In [ ]:

In [ ]:

key-value-item

In [63]:

```
d1={'Ramesh':20,'Suresh':25,'Piyush':27}
d1
```

...

In [64]:

```
d1.keys()
```

Out[64]:

```
dict_keys(['Ramesh', 'Suresh', 'Piyush'])
```

In [65]:

```
d1.values()
```

Out[65]:

```
dict_values([20, 25, 27])
```

In [66]:

```
d1.items()
```

Out[66]:

```
dict_items([('Ramesh', 20), ('Suresh', 25), ('Piyush', 27)])
```

In [68]:

```
d1.keys() #its very important to check the type of output
type(d1.keys())#dict_keys
#so convert dict_keys type to list type
```

Out[68]:

```
dict_keys
```

In [70]:

```
list(d1.keys())[0].lower()
```

Out[70]:

```
'ramesh'
```

In [ ]:

```
#whatever is in teh dict type we need to convert it int list
```

In [72]:

```
# 'clear',
#  'copy'
# 'get'
# 'pop'
# 'popitem',

d1.clear()
d1
```

Out[72]:

```
{}
```

In [76]:

```
d1={'Ramesh':20,'Suresh':25,'Piyush':27}
d2=d1.copy()
d1.clear()
d2
```

Out[76]:

```
{'Ramesh': 20, 'Suresh': 25, 'Piyush': 27}
```

In [81]:

```
d1={'Ramesh':20,'Suresh':25,'Piyush':27}
l1=list(d1)
l2=l1.pop()
print(l2)
print(l1)
```

```
Piyush
['Ramesh', 'Suresh']
```

In [84]:

```
d1={'Ramesh':20,'Suresh':25,'Piyush':27}
d1=popitem('Ramesh')
d1

# l1=list(d1)
# l2=l1.popitem()
# print(l2)
# print(l1)
```

```
------------------------------------------------------------------------
---
NameError                                 Traceback (most recent call la
st)
~\AppData\Local\Temp\ipykernel_35224\882515681.py in <module>
      1 d1={'Ramesh':20,'Suresh':25,'Piyush':27}
----> 2 d1=popitem('Ramesh')
      3 d1
      4 
      5 # l1=list(d1)

NameError: name 'popitem' is not defined
```

In [ ]: