```
#Creation of Dict Objects:
#1.Empty dict:
d={}
print(type(d))
d1=dict()
print(type(d1))
```

```
<class 'dict'>
<class 'dict'>
```

```
#2.If we know data already:
d={100:"akhil",200:"sasi"}
print(d)
print(type(d))
```

```
{100: 'akhil', 200: 'sasi'}
<class 'dict'>
```

```
#3.By using dict():
l=[(100,"a"),(200,"b"),(300,"c")]
d=dict(l)
print(d)
print(type(d))
```

```
{100: 'a', 200: 'b', 300: 'c'}
<class 'dict'>
```

```
#by the above funtion (dict()):
#List of tuples
#tupule of tuples
#set of tuples
#list of lists
#tuple of lists
#set of list====>❌
```

```
#compulsory internal elements should contain two elements
```

```
#By using dynamic input:
d=eval(input("enter dictionary:"))
print(d)
print(type(d))
```

```
enter dictionary:{100:"akhil",200:"b"}
{100: 'akhil', 200: 'b'}
<class 'dict'>
```

```
#How to access data from the dictionary:
d={100:"akhil",200:"sasi",300:"sudheer"}
#d[key]
print(d[100])
print(d[300])
#if the key is not present it will raise KeyError
key=int(input("enter key to find:"))
if key in d:
  print("The corresponding value is:",d[key])
else:
  print("the key is not present")
```

```
akhil
sudheer
enter key to find:400
the key is not present
```

```
#How to add/update data in dict:
#d[key]=value
d={100:"akhil",200:"sasi"}
d[300]="sudheer"
print(d)
d[100]="Nanna" #It changes the value
print(d)
```

```
     {100: 'akhil', 200: 'sasi', 300: 'sudheer'}
     {100: 'Nanna', 200: 'sasi', 300: 'sudheer'}
```

```
#How to delete data from dict:-
#del d[key]
d={100:"akhil",200:"sasi",300:"sudheer"}
del d[100]
print(d)
#if the key is not present it raise KeyError
del d[200],d[300]
print(d)
```

```
     {200: 'sasi', 300: 'sudheer'}
     {}
```

```
#write a program to enter name and marks in to a dictionary and display information on the screen
n=int(input("enter number of students:"))
d={}
for i in range(n):
  name=input("enter the student name:")
  marks=int(input("Enter marks of the student:"))
  d[name]=marks
print(d)
```

```
     enter number of students:3
     enter the student name:akhil
     Enter marks of the student:80
     enter the student name:sasi
     Enter marks of the student:75
     enter the student name:sudheer
     Enter marks of the student:85
     {'akhil': 80, 'sasi': 75, 'sudheer': 85}
```

```
#decoration
print("*"* 30)
print("name","\t\t","marks")
for name in d:
  print(name,"\t\t",d[name])
```

```
     ******************************
     name             marks
     akhil            80
     sasi             75
     sudheer                  85
```

```
#Operators for dict:
d1={100:"A",200:"B"}
d2={300:"C",400:"D"}
#d3=d1+d2  ======>TypeError
#d3=d1*d2  ======>TypeError
print(d1==d2)
d3={200:"B",100:"A"}
print(d1==d3)
#print(d1>d2)==========>TypeError
#print(d1<d2)==========>TypeError
print(100 in d1)
print(200 not in d1)
print("A" in d1)     #membership operators works for keys
```

```
     False
     True
     True
     False
     False
```

```
#Important functions/methods for dict:
#len(d)
d={100:"akhil",200:"sasi",300:"sudheer"}
print(len(d))
#d.get(key)
print(d.get(100))
print(d.get(700))
#d.get(key,default_value)
print(d.get(700,"AAAA"))
```

```
#update
#d1.update(d2)
d1={1:"A",2:'B'}
d2={3:"C",4:"D"}
d1.update(d2)
print(d1)
```

```
3
akhil
None
AAAA
{1: 'A', 2: 'B', 3: 'C', 4: 'D'}
```

```
#d.keys()
d={1:"A",2:"B",3:"C"}
k=d.keys()
print(k)

for key in d.keys():
  print(key)
```

```
dict_keys([1, 2, 3])
1
2
3
```

```
#d.values()
v=d.values()
print(v)

for values in d.values():
  print(values)
```

```
dict_values(['A', 'B', 'C'])
A
B
C
```

```
#d.items()
i=d.items()
print(i)

for items in d.items():
  print(items)

for k,v in d.items():
  print(k,".......",v)
```

```
dict_items([(1, 'A'), (2, 'B'), (3, 'C')])
(1, 'A')
(2, 'B')
(3, 'C')
1 ....... A
2 ....... B
3 ....... C
```

```
#WAP to get value from the dictionary for the given key
d={1:"a",2:'b',3:"c",4:'d'}
key=int(input("enter the key:"))
if key in d:
  print("the correspoding value:",d[key])
else:
  print("key is not present")
```

```
enter the key:2
the correspoding value: b
```

```
#WAP to get key from the dictionary for the given value
d={1:"a",2:"b",3:'c',4:'d',5:'e'}
value=input("enter the value:")
available=False
for k,v in d.items():
  if v==value:
    print("the corresponding key",k)
    available=True
```

```
if available==False:
  print("the value is not present")
```

```
    enter the value:l
    the value is not present
```

```
#pop(key)
d={1:"a",2:"B",4:"c"}
print(d.pop(2))
print(d)
```

```
    B
    {1: 'a', 4: 'c'}
```

```
#d.pop(key,value)
d={1:"a",2:"b",3:"c",4:"d"}
print(d.pop(2,"b"))
print(d.pop(7,"akhil"))
print(d)
```

```
    b
    akhil
    {1: 'a', 3: 'c', 4: 'd'}
```

```
#d.popitem()
d={1:"a",2:"j",4:'k'}
print(d.popitem())
print(d)
```

```
    (4, 'k')
    {1: 'a', 2: 'j'}
```

```
#d.clear()
d={1:'a',5:"sj"}
print(d.clear())
print(d)
```

```
    None
    {}
```

```
#d.setdefault(key,value)========>it  didn't change the value
d={1:'a',2:"aj"}
print(d.setdefault(3,"akhil"))
print(d)
print(d.setdefault(1,"akh"))
print(d)
```

```
    akhil
    {1: 'a', 2: 'aj', 3: 'akhil'}
    a
    {1: 'a', 2: 'aj', 3: 'akhil'}
```

```
#aliasing and cloning
d={1:'a',2:"b",3:"c"}
d1=d
d[3]="akhil"
print(d1)
```

```
    {1: 'a', 2: 'b', 3: 'akhil'}
```

```
#cloning
d1={1:'A',2:"B",3:"C"}
d2=d1.copy()
d1[3]="akhil"
print(d1,d2)
```

```
    {1: 'A', 2: 'B', 3: 'akhil'} {1: 'A', 2: 'B', 3: 'C'}
```

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