

Dict's are a special type of data strucutres. The are a structure of keys and values.

Let's see an example and it will be immediately clear

```
In [1]: empty_dict={}
```

```
In [2]: #Notice the curly brackets!
```

```
In [3]: d={'a':'Jane','b':'Marry','c':'Penny'}
```

```
In [4]: d
```

```
Out[4]: {'a': 'Jane', 'b': 'Marry', 'c': 'Penny'}
```

```
In [5]: d.keys()
```

```
Out[5]: ['a', 'c', 'b']
```

```
In [6]: d.values()
```

```
Out[6]: ['Jane', 'Penny', 'Marry']
```

```
In [7]: #another example  
d1={'1':[1,2,4],'2':['a','b',3]}
```

```
In [8]: d1
```

```
Out[8]: {'1': [1, 2, 4], '2': ['a', 'b', 3]}
```

```
In [11]: d1.keys()
```

```
Out[11]: ['1', '2']
```

```
In [12]: d1.values()
```

```
Out[12]: [[1, 2, 4], ['a', 'b', 3]]
```

```
In [13]: type(d1.values())
```

```
Out[13]: list
```

```
In [14]: dd=d1.values() #taking the values and making a list out of it
```

```
In [15]: dd # se see that the dd variable is actually a list of lists
```

```
Out[15]: [[1, 2, 4], ['a', 'b', 3]]
```

```
In [16]: dd[1]
```

```
Out[16]: ['a', 'b', 3]
```

```
In [17]: type(dd[1])
```

```
Out[17]: list
```

```
In [18]: type(dd[1][0]) #first element of the second list in dd !! Don't get confused!
```

```
Out[18]: str
```

```
In [19]: #it is a string  
dd[1][0]
```

```
Out[19]: 'a'
```

```
In [ ]: #taking a value of a chosen key !
```

```
In [21]: d
```

```
Out[21]: {'a': 'Jane', 'b': 'Marry', 'c': 'Penny'}
```

```
In [20]: d['a']
```

```
Out[20]: 'Jane'
```

```
In [ ]:
```

It is also possible to create dict's from two tuples!

```
In [48]: t1=(1,2,3,4)
```

```
In [49]: t2=('a','b','3','4')
```

```
In [50]: dt=dict(zip(t1,t2))
```

```
In [51]: dt
```

```
Out[51]: {1: 'a', 2: 'b', 3: '3', 4: '4'}
```

```
In [52]: dt.keys()
```

```
Out[52]: [1, 2, 3, 4]
```

```
In [53]: dt.values()
```

```
Out[53]: ['a', 'b', '3', '4']
```

in keys we have two lists not tuples, first we need to transform list to tuples!

```
In [80]: l1=[1,2,4]
```

```
In [82]: l2=['susane', 'anna', 'ingrid', 'greta']
```

```
In [83]: type(l1)
```

```
Out[83]: list
```

```
In [84]: l1=tuple(l1) # redefining the l1
```

```
In [85]: type(l1)
```

```
Out[85]: tuple
```

```
In [86]: l2=tuple(l2)
```

```
In [87]: ddd=dict(zip(l1,l2))
```

```
In [88]: ddd
```

```
Out[88]: {1: 'susane', 2: 'anna', 4: 'ingrid'}
```

#Note that when creating a dict the two tuples have to be same size!!! or it will cut out the rest!

```
In [ ]:
```