In [4]:
```
##json
book={}
book['tom']={
    'name':'tom',
    'address':'123 Allama iqbal colony faislabad',
    'phone': 33097456237882
}

book['bob']={
    'name':'bob',
    'address':'johar ali town',
    'phone':7638365426
}

import json
s=json.dumps(book)
with open(r"C:\Users\Qadri\Downloads\New folder\book.txt","w") as f:   #writ
    f.write(s)
```

In [5]:
```
f=open(r"C:\Users\Qadri\Downloads\New folder\book.txt","r")
s=f.read()
print(s)                          #read the json file
```

```
{"tom": {"name": "tom", "address": "123 Allama iqbal colony faislabad", "ph
one": 33097456237882}, "bob": {"name": "bob", "address": "johar ali town",
"phone": 7638365426}}
```

In [6]:
```
import json
book=json.loads(s)
print(book)                       #read the json file
```

```
{'tom': {'name': 'tom', 'address': '123 Allama iqbal colony faislabad', 'ph
one': 33097456237882}, 'bob': {'name': 'bob', 'address': 'johar ali town',
'phone': 7638365426}}
```

In [7]:
```
type(book)              #here the output telling us that the upper output is
                        #while (" ")that the output is in the string form
```

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

In [8]:
```
book['bob']
```

Out[8]:
```
{'name': 'bob', 'address': 'johar ali town', 'phone': 7638365426}
```

In [9]:
```
book['tom']
```

Out[9]:
```
{'name': 'tom',
 'address': '123 Allama iqbal colony faislabad',
 'phone': 33097456237882}
```

In [10]:
```
for person in book:
    print(book[person])           #Each person with this complete about inf
```

```
{'name': 'tom', 'address': '123 Allama iqbal colony faislabad', 'phone': 33
097456237882}
{'name': 'bob', 'address': 'johar ali town', 'phone': 7638365426}
```

In [17]:
```
###EXCEPTION HANDLING
x= input("Enter the first number:")
y= input("Enter the second number:")
try:
    z=int(x)/int(y)                                    #Exception Handling
except Exception as e:
    print("Divisible by zero exception case",e)
    z=None
print("Answer is :",z)
```

```
Enter the first number:2
Enter the second number:4
Answer is : 0.5
```

In [19]:
```
###EXCEPTION HANDLING 2nd case
x= input("Enter the first number:")
y= input("Enter the second number:")
try:
    z=int(x)/int(y)                                    #Exception Handling
except ZeroDivisionError as e:
    print("Divisible by zero exception case")          #code diff is using
    z=None
print("Answer is :",z)
```

```
Enter the first number:2
Enter the second number:0
Divisible by zero exception case
Answer is : None
```

In [1]:
```
##Iterators
a =["hey","you","are","awesome"]
for i in a:
    print(i)
```

```
hey
you
are
awesome
```

In [2]:
```
dir(a)
```

Out[2]:
```
['__add__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__delitem__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__iadd__',
 '__imul__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__mul__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__reversed__',
 '__rmul__',
 '__setattr__',
 '__setitem__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'append',
 'clear',
 'copy',
 'count',
 'extend',
 'index',
 'insert',
 'pop',
 'remove',
 'reverse',
 'sort']
```

In [3]:
```
itr=iter(a)
itr
```

Out[3]:
```
<list_iterator at 0x1bddbc935e0>
```

In [4]:
```
next(itr)
```

Out[4]:
```
'hey'
```

In [5]:
```
next(itr)
```

Out[5]:
```
'you'
```

In [6]:
```
next(itr)
```

Out[6]:
```
'are'
```

In [7]:
```
next(itr)
```

Out[7]:
```
'awesome'
```

In [ ]:
```

```