Formatting Strings using functions

In [1]:
```
def newentry(a1, a2):
    print('Welcome to my channel Mr. {first_name} {last_name}'.format(last_name=a2, firs
t_name=a1))
```

In [2]:
```
newentry("Ravi", "Kant")
```

```
Welcome to my channel Mr. Ravi Kant
```

In [5]:
```
#Lists are Iterable
#i.e. we can iterate through a list

list4=[1,2,3]
for i in list4:
    print (i)
```

```
1
2
3
```

In [6]:
```
type(list4)
```

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

In [7]:
```
#usin iter function to convert a list to an iterator

a= iter(list4)

type(a)
```

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

In [8]:
```
a
```

Out[8]:
```
<list_iterator at 0x57d6f51948>
```

We can not see the contents of the iterator a as the memory initialisation for the elements of a hasn't been done yet

- so we use an inbuilt function next() to retrieve contents of this iterator, once the memory initialisation is done- one by one. Lets see how.

In [9]:
```
next(a)
```

Out[9]:
```
1
```

In [10]:
```
next(a)
```

Out[10]:
```
2
```

In [11]:
```
next(a)
```

Out[11]:
```
3
```

In [12]:
```
# throws error as we have reached the end of the iterator

next(a)
```

```
---------------------------------------------------------------------------
StopIteration                             Traceback (most recent call last)
<ipython-input-12-15841f3f11d4> in <module>
----> 1 next(a)

StopIteration:
```

In [18]:
```
#Alternately printing the values of iterator using for loop

b= iter(list4)

for i in b:
    print (i)
```

```
1
2
3
```

In [19]:
```
# as we reached the end of iteraator b we will see an error if we run

next(b)
```

```
---------------------------------------------------------------------------
StopIteration                             Traceback (most recent call last)
<ipython-input-19-adb3e17b0219> in <module>
----> 1 next(b)

StopIteration:
```

So, all together iterator is basically an iterating pointer that points to the first memory location in default and moves only when next() function is used to move the iterator to the next memory location. To declare an iterator we use iter() function. For loop can be used over both iterbales and iterators to see the values contained and the values they are pointing to.

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