Common tasks usings loops

In this notebook we will dicuss a few common tasks perfomed with loops.

In [1]:

```
'''
Print all the values in a sequence of values
Note the square brackets indicating this is a list.
'''
for my_str in ['Amy', 'Beth', 'Chandrika', 'Dengpan', 'Edith', 'Farida', 'Ginger']:
    print(my_str)
```

```
Amy
Beth
Chandrika
Dengpan
Edith
Farida
Ginger
```

In [3]:

```
'''
Count the number of iterations executed
'''
count = 0 # It is important to initialize the value of the counter variable before entering the lo
op.
for i in range(12, 3, -2):
    count += 1 #count is incremented here
    print(i)
print('number of iterations:', count)
```

```
12
10
8
6
4
number of iterations: 5
```

In [4]:

```
'''
Print the product of the values obtained in each iteration
'''
prod_total = 1 # important to initialize the value of the variable that will hold the product
for i in range(1, 5):
    prod_total *= i
    print(i)
print('product:', prod_total)
```

```
1
2
3
4
product: 24
```

In [5]:

```
'''
Finding the average
'''
count, sum_total = 0, 0 # for this problem, we will need both the counter variable and the total v
ariable
for i in range(0, 100, 5):
    sum_total += i
    count += 1
print('number of iterations:', count, 'total:', sum_total, 'average:', sum_total/count)
```

```
print('number of iterations:', count, 'total:', sum_total, 'average:', sum_total/count)
```

```
number of iterations: 20 total: 950 average: 47.5
```

In [6]:

```
# Finding the largest value

'''
First declare a variable to hold the largest number found so far and initialize it to the first va
lue in the sequence.
'''
max_n = 8
for i in [8, 2, 5, 18, 1, 4, 19, 20, 3, 1]:
    if i > max_n:
        max_n = i
print('largest number is:', max_n)
```

```
largest number is: 20
```

In [ ]:

```
'''
Finding the smallest value.  Similar to the above problem.
'''
```