Problem Solving and Programming

Day No -

Date -

Day Objectives

1. Objective 1
2. Objective 2
3. Objective 3

Packages and Modules

Package - Collection of Python Scripts (.py) Sub-Package - Package inside another Package Module - A Python Script

In [2]:
```
from PythonScripts.numericalFunctions import sumN as a
from PythonScripts.strings.stringFunction import *
import math

#factorial(20)
reverseString('Python')
math.floor(123.999)
```

Out[2]: 123

In [7]:
```
iterable = iter([1,2,3])
type(iterable)
```

Out[7]: list_iterator

In [ ]:
```
```

Regular Expressions

A set of all possible values that satisfy a given a pattern

0123456789 [0-9] [a-z] [A-Z]

Validate a postal code 500001, 203456 true 050101 false

Email Validation

Password validation

- Should contain atleast one uppercase letter
- length in the range (6,21)
- should contain atleast one special character
- should start with an uppercase or lowercase
- should contain atleast one digit

Password strength

In [11]:
```
import re

postalCodePattern = '^[1-9][0-9]{5}$'

code = '100001'


phoneNumberPattern1 = '^[+][9][1][6-9][0-9]{9}$'

ph = '9000001234'



if re.match(phoneNumberPattern1, ph):
    print('Match')
else:
    print('Does not Match')
```

```
Match
```

In [ ]:
```
```

Iterators in Python

Lists, Tuples, Strings

In [23]:
```
li = [1, 2, 3, 4, 5, 6]

for i in li:
    print(i, end = ' ')

type(li)
it = iter(li)
for i in it:
    print(i, end = ' ')
```

```
1 2 3 4 5 6 1 2 3 4 5 6
```

Generators in Python

In [32]:
```
li = [i**3 for i in range(1,10)]
li

gn = (i**3 for i in range(1,11))

for i in gn:
    print(i, end = ' ')
```

```
1 8 27 64 125 216 343 512 729 1000
```

In [ ]:
```
### Problem 1 :
#### Problem Statement

#### Constraints

#### Test Cases
```