Day Objectives
Date 21-sept-2019
```
* YesterDay Topics Revision
* Operators in Python
    * Artgemetic Operators(+,-,*,/,%,//,**)
    * Assignment operators(=,+=,-=,*=,/=,//=,**=)
    * Comparison operators(or)Relational operators(<,<=,>,>=,!=,==)
    * Logical operators(and,or,not)
    * Identity operators(is,is not)
    * Membership operators(in, not in)
    * Bitwise operators(&,|,^,~,<<,>>)
* Conditional Statements
    * If
    * If Else
    * Nested If
    * elif

* Loops
    * For Loop
    * While loop
```

In [15]:

```python
#Assignment operators(=,+=,-=,*=,/=,//=,**=)
a=10
a
a+=1 #a=a+1
a     #a=11
a-=1 #a=a-1
a    #a=10
a*=2 #a=a*2
a     #a=20
a/=3 #a=a/3
a     #6.666
b=20
b//=3 #b=b//3
b      #b=6
b**=2 #b=b**2
b
b%=5  #b=b%5
b
```

Out[15]:

1

In [21]:

```python
# Comparison operators(or)Relational operators(<,<=,>,>=,!=,==) It returns true or false
p=10
q=20
print(p<q)
print(p<=q)
print(p>q)
print(p>=q)
print(p!=q)
print(p==q)
```

```
True
True
False
False
True
False
```

In [30]:

```python
# Logical operators(and,or,not)
print(10>5 and 2<1)
#       1    and   0   => 0
print(10<4 or 15>3)
#       0    0r   1   =>1
a=10
print(not(a>5 and a>3))
#      not(true)
```

```
False
True
False
```

In [33]:

```python
# Bitwise operators(&,|,^(X-OR),~,<<,>>)
a=10 #
b=6
#   8 4 2 1
# a=1 0 1 0
# b=0 1 1 0
#   =======
# & 0 0 1 0 => 2
# | 1 1 1 0 =>14
print(a&b)
print(a|b)
print(~a) # -(a+1) ==>-(10+1)=>-11
```

```
2
14
-11
```

In [34]:

```python
a=76
a>>1
```

Out[34]:

38

In [35]:

```python
a=6
a>>1
```

Out[35]:

3

In [36]:

```python
a>>2
```

Out[36]:

1

In [39]:

```python
a=8
print(a<<3) # value << number of shift
```

64

In [45]:

```python
# * Conditional Statements
#     * if
#     * if Else
#     * Nested If
# if condition:
#    statements
# 1.To heck wheather it is given number is even number or odd number?
#  input : n=10
# output : 10 is even number
# static way of implemention
n=4
if n%2==0:
    print("%d is even number"%n)
```

4 is even number

In [55]:

```python
a=7
if a>3:
    print("Welcome")
```

Welcome

In [ ]:

```python
# syntax if if-else:
#if-else statment
# if condition:
#      statement
# else:
#      statement
```

In [58]:

```python
#Write a python program to find the biggest of two numbers?
#input : a=10 b=20
#Output: 20 is biggest value.
a=10
b=20
if a>b:
    print("%d is biggest value."%a)
else:
    print("%d is biggest value."%b)
```

20 is biggest value.

In [59]:

```python
# Tasks:---
#1.write a python program to check wheather it is given number
# is positive number or negative number?

#2.write a python program to check wheather it is given
# two numbers equal or not?

#3.write a python program to check wheather it is given year
# leap year or not?

#4.Write python program to check
# if age is greater than 18 print Adult else print child

#5.Write a python program to calulate the simple intrest
```

In [16]:

```python
#Taking input from User
# If you want to take the input from the user there is
#predefined  method called input()

a = int(input("Enter a number "))
b = int(input("Enter b number "))
print(a,b," numbers are")
```

```
Enter a number 20
Enter b number 30
20 30  numbers are
```

Type *Markdown* and LaTeX: α^2

In [21]:

```python
# nested if syntax:-----
# if condition: true
#     if condition:
#         statement
n=int(input("Enter n value"))
if n>0:
    if n%2==0:
        print("n is even number")
    else:
        print("n is odd number")
else:
    print("your entered negative number")
```

```
Enter n value3
n is odd number
```

In [ ]:

```python
# syntax of elif
# if condition:
#      statements
# elif condition:
#      statements
# else:
#      statements
#1. Write a python program to print week days?
# input: 1
# output: sunday
n=int(input("Enter n value"))
if n>=1 and n<=7:
    if n==1:
        print("Sun")
    elif n==2:
        print("mon")
    elif n==3:
        print("tue")
else:
    print("your entered invalid choice")
```

In [1]:

```python
# for syntax:
# for variable_name in range(lowerbound,upperbound):
#lowerboud->inclusive; upperbound->exclusive
#      statements
#1.To print 1 to 5 natural numbers?
#input: n=5
#output:    1
#           2
#           3
#           4
#           5
for i in range(1,6):
    print(i)
```

```
1
2
3
4
5
```

In [4]:

```python
for i in range(1,6):
    print(i,end=" ")
```

```
1 2 3 4 5
```

In [5]:

```python
for i in range(6):
    print(i)
```

```
0
1
2
3
4
5
```

In [12]:

```python
# syntax:
# for variable_name in range(start,stop,step):
#     statements
for i in range(2,10,2):
    print(i,end=" ")
```

```
2 4 6 8
```

In [13]:

```python
#2.Write a python program to print 1 to n natural numbers in ascending order?
n=int(input("Enter n value"))
for i in range(1,n+1):
    print(i,end=" ")
```

```
Enter n value7
1 2 3 4 5 6 7
```

In [16]:

```python
#3.write a python program to print 1 to n natural numbers n descending order?
n=int(input("Enter n value"))
for i in range(n,0,-2):
    print(i,end=" ")
```

```
Enter n value5
5 3 1
```

In [ ]:

```
Tasks:
#1. To print sum of 1 to n natural numbers?
#2.To print factorial of a given number?
#3.To print factors of a given number?
#4.To print count the even numbers and odd number of given range 1 to n?
#5. TO check wheather it is given number is prime or not?
#6. To print prime numbers in between 1 to n?
#7.To print prime numbers in betwenn n to m?
#8.To check wheather it is given number perfect number or not?
#9.To print 1 to n perfect number?
#10.To print average of prime numbers in between 20 to 55 both are inclusive?
#11. To generate the numbers in between 100 to 1000
#     which is divisible by 5 and not factor of 100?
#12. TO find the factors average of a given number n?
```

In [20]:

```
# while condition:
#      statements
#      updation
#1.To count number of digits of a given number?
#input: n=345
#output: count is 3
n=int(input("Enter n value"))
c=0
while n!=0:
    c=c+1
    n=n//10
print("Count is ",c)
```

```
Enter n value345
Count is  3
```

In [ ]:

```
#tasks:---
#1. To print only even digits of a given number?
# input: n=567894
# output: 4 8 6
#2. To print reverse of agiven number?
#3. To check wheather it is given nnumber is palindrome or not?
#4. To check wheather it is given number is special number or not?
# input: n=59
#    product => 45(5*9)
#    sum      => 14(5+9)
# res=>product+sum=>59
```