



# ***LAB NOTES OF PYTHON PROGRAMMING***

**By**

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# Python

- **Example 1 :** Function to read a number and reverse order of the number , find the summation of even ,odd digits and average for all digits.

```
def reverse(x):  
    sum=0  
    sum_even=0  
    sum_odd=0  
    avg=0  
    z=0  
    while (x !=0):  
        y= x % 10  
        x= x / 10  
        print y ,  
        sum+=y  
        z=z+1  
        if y %2 ==0:  
            sum_even+=y  
        else:  
            sum_odd+=y  
    print "\n"  
    print ("sum of Even is:"),sum_even  
    print ("sum of Odd is:"),sum_odd  
    print ("Average is:"),sum/z  
    |  
reverse(input("Enter Number:"))
```

# Python

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- **Example 2 :** Function to check the character case (Upper , Lower case).

```
def check(*character):
    for ch in character:
        if (ch >= 'A') and (ch <= 'Z'):
            print("UpperCase Character")
        elif (ch >='a') and (ch <= 'z'):
            print("LowerCase Character")
        elif (ch >= '0') and (ch <= '9'):
            print("Digit")
no=input("enter number of chacters:")
for i in range(0,no):
    check(input("Enter ch:"))
```

# Python

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- **Example 3 :** Function to find the greatest common divisor (GCD) of two numbers.

```
def find_gcd(x, y):  
    if x > y:  
        smaller = y  
    else:  
        smaller = x  
    for i in range(1, smaller + 1):  
        if ((x % i == 0) and (y % i == 0)):  
            gcd = i  
    return gcd  
  
num1=input("Enter Number1 :")  
num2=input("Enter Number2 :")  
print "gcd is : ",find_gcd(num1,num2)
```

# Python

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- **Example 4 :** Function to read 5 degrees for a given number of students and find the average.

```
no_stu=input("Enter Number of students:")
for i in range(0,no_stu):
    sum=0
    avg=0
    for j in range(0,5):
        degree=input("Please enter Degree:")
        sum=sum+degree
    avg=sum/5
    print avg
```

# Python

- **Example 5** : program to solve the following sequential :

$$1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^n}{(n)!}$$

```
def factor(n) :  
    f=1  
    for i in range(1,n+1) :  
        f=f*i  
    return f  
n=input("Enter Value of N:")  
x=input("Enter Value of X:")  
z=1  
for i in range(0,n) :  
    z+= x**i / factor(i)  
print z
```

# Python

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- **Example 6 :** Function to read numbers and check is prime number or not.

```
def prime(*numbers):  
    for no in numbers:  
  
        if no > 1:  
            for i in range(2,no):  
                if no % i == 0:  
                    print no," is not prime"  
                    break  
            else:  
                print no," is a prime"  
        else:  
            print no," is not prime"
```

# Python

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- **Example 7** : Function to read numbers and find **MAX , MIN, SUM ,AVG** of entered values.(stop when read 0)


```
def find():  
    x=input("Please enter a value:")  
    max=x  
    min=x  
    sum=0  
    z=0  
    while(x != 0):  
        if (x > max):  
            max=x  
        if (x < min):  
            min=x  
        sum+=x  
        z=z+1  
        x=input("Please enter another value")  
    print("The MAX is:"),max  
    print("The MIN is:"),min  
    print("The SUM is:"),sum  
    print("The AVG is:"),sum/z  
|
```



# Python

- **Example 8 :** Generate two children based on two parents as the following:

<u>Parent 1:</u>	I	N	F	O	R	M	A	T	I	O	N
<u>Parent 2:</u>	T	E	C	H	N	O	L	O	G	Y	S



<u>Child 1:</u>	I	N	C	H	N	M	A	T	G	Y	N
<u>Child 2:</u>	T	E	F	O	R	O	L	O	I	O	S

```
parent1=list(input("enter Parent 1:"))
parent2=list(input("enter Parent 2:"))
print parent1
print parent2
list1=[2,3,4,8,9]
temp=""
for i in range(0,len(parent1)):
    if(i in list1):
        temp=parent2[i]
        parent2[i]=parent1[i]
        parent1[i]=temp
print
print parent1
print parent2
```

# Python

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- **Example 9 :** Create class **car** with properties (model, type , speed , number of doors) for a given numbers of cars.

```
class car():
    no=input("Please enter Number of Cars:")
    mylist=[]
    for i in range(1,no+1):
        print "Car ",i
        model=input("enter Model:")
        type=input("enter Type:")
        speed=input("enter Speed:")
        no_door=input("enter Number of Doors:")
        mylist.append(model)
        mylist.append(type)
        mylist.append(speed)
        mylist.append(no_door)
    print mylist

c=car()
```

# Python

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- **Example 10** : Find the value of **T** form the following equation:

$$T = \frac{n!}{k!(n-k)!}$$

```
def factor(n) :  
    f=1  
    for i in range(1,n+1) :  
        f=f*i  
    return f  
  
n=input("enter value of n:")  
k=input("enter value of k:")  
t=factor(n) / ( (factor(k)) * (factor(n-k)) )  
print t
```