

1. Factorial of a given number as a procedure

Factorial(5) -> 120

Factorial (6) -> 720

In [23]:

```
def fact(n):  
    i=1  
    fa=1  
    while i<=n:  
        fa=fa*i  
        i+=1  
    print(f'Factorial of a given number is {fa}')
```

In [24]:

```
fact(8)
```

Factorial of a given number is 40320

2. Procedure to generate multiplication tables.

MT(3, 5, 7) -> 3 X 5 = 15

3 X 6 = 18

3 X 7 = 21

In [39]:

```
def mul(a,b,c):  
    while b<=c:  
        print(f'{a}*{b}={a*b}')        b+=1
```

In [41]:

```
mul(4,5,7)
```

4*5=20

4*6=24

4*7=28

Factorial Using Recursion

In [49]:

```
def fact(n):  
    if n==1:  
        return n  
    else:  
        return fact(n-1)*n
```

In [50]:

```
fact(5)
```

Out[50]:

120

To find Leap Year or not

In [57]:

```
def isLeapYear(y):  
    import calendar  
    return calendar.isleap(y)
```

In [59]:

```
isLeapYear(2012)
```

Out[59]:

True

3. Procedure to print the list of factors of a given number.

FactorList(6) -> 1 2 3 6

FactorList (9) -> 1 3 9

FactorList (19) -> 1 19

In [1]:

```
def FactorList(n):  
    i=1  
    while i<=n:  
        if(n%i==0):  
            print(i)  
        i+=1
```

In [2]:

```
FactorList(9)
```

```
1  
3  
9
```

4. Procedure to check if a given number is Prime and returns a Boolean value.

```
IsPrime(7) -> True
```

```
IsPrime(9) -> False
```

In [26]:

```
def IsPrime(n):  
    count=0  
    if n==0 or n==1:  
        return False  
    for i in range(2,n//2):  
        if(n%i==0):  
            count+=1  
    if(count==0):  
        return True  
    else:  
        return False
```

In [30]:

```
IsPrime(5003)
```

Out[30]:

```
True
```

5. Procedure to count the number of digits in a given number.

```
CountDigits(123456) -> 6
```

```
CountDigits (0) -> 1
```

In [5]:

```
def CountDigits(n):  
    count=0  
    while n>0:  
        n=n//10  
        count=count+1  
    print(f'No.of digits in the given number is: {count}')
```

In [6]:

```
CountDigits(1)
```

No.of digits in the given number is: 1

In [7]:

```
CountDigits(789)
```

No.of digits in the given number is: 3

In []: