

1. Write python required argument function to calculate factorial of given number
2. Write user defined function to calculate Fibonacci series of Nth series
3. Write user defined function by name as login() having parameters as username, password validate on success return true otherwise false
4. Define your function with position only argument calculate $s = u*t + \frac{1}{2} (a*t)*(a*t)$ where u,t and a are parameters of the function with function name as calcualteDistance()
5. Define your function to calculate amstrong number
6. Define varying argument function to display sum of square of given list of numbers
7. using default value argument write a code calculate bonus for employee, where input name, salary, bonus
8. set bonus default value as 500 return sal+bonus as total payment to employee

In [1]:

```
# 1. Write python required argument function to calculate factorial of given number
def fectorial(n):
    temp=n
    fact=1
    if temp<1:
        print("negative number doesn't take factorials")
    elif temp==0:
        print("Given number is factorial of 0 and 1")
    else:
        for i in range(1,temp+1):
            fact= fact*i
        print(fact)
fectorial(10)
```

3628800

In [2]:

```
# 2. Write user defined function to calculate Fibonacci series of Nth series
def feb(n):
    s=n
    a=0
    b=1
    if n==1:
        print(a)
    elif n==0:
        print(a)
        print(b)
    for i in range(1,s+1):
        c=a+b
        a=b
        b=c
    print(f'the Nth series of the fibonacci series {c}')
feb(12)
```

the Nth series of the fibonacci series 233

In [3]:

```
# 3. Write user defined function by name as login() having parameters as username, password
def login(user,pwd):
    char=['a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t']
    p=['!','@','#','$']
    for user in char:
        return True
    for pwd in p:
        return True
    else:
        return False
login("rama","!@#$$")
```

Out[3]:

True

In [4]:

```
# 4. Define your function with position only argument calculate  $s = u*t + \frac{1}{2} (a*t)*(a*t)$ 
def calcualteDistance(u,a,t):
    s=u*t+1/2*(a*t)*(a*t)
    return s
calcualteDistance(2,34,60)
```

Out[4]:

2080920.0

In [5]:

```
##### 5. Define your function to calculate amstrong number
def amstrong():
    n=int(input("Enter the number "))
    temp=n
    s=0
    while temp>0:
        digit=temp%10
        s+=digit**3
        temp=temp//10
    if s==n:
        print("Given number is Amstrong Number : ",n)
    else:
        print("Given number is not a Amstrong number: ",n)
amstrong()
```

Enter the number 455

Given number is not a Amstrong number: 455

In [6]:

```
# 6.    Define varying argument function to display sum of square of given list of number
def sum_of_square():
    n=int(input("Enter the Number : "))
    s=n*(n+1)*(2*n+1)/6
    return 'the sum of the square of given list number ',s
sum_of_square()
```

Enter the Number : 66

Out[6]:

('the sum of the square of given list number ', 98021.0)

In [10]:

```
# 7.    using default value argument write a code calculate bonus for employee, where inp
def bonus(bonus_percentage=0.05):
    ename=input("Enter the employee name : ")
    salary=50000
    bouns=salary*bonus_percentage
    return bouns,salary
bonus()
```

Enter the employee name : ramakrish

Out[10]:

(2500.0, 50000)

In [15]:

```
# 8.    set bonus default value as 500    return sal+bonus as total payment to employee
def bonus(sal,bonus=500):
    total=sal+bonus
    return total
bonus(50000)
```

Out[15]:

50500

In []:

In []:

In []:

In []:

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In []: