#PALINDROME NUMBER FUNCTION:

**def** palindrome(a):  
 n=a  
 rev = 0  
 rem = 0  
 **while** n != 0:  
 rem = n % 10  
 rev = rev \* 10 + rem  
 n = n // 10  
 **if** a == rev:  
 print(**"Palindrome Number"**)  
 **else**:  
 print(**"Not a Palindrome Number"**)

#REVERSE NUMBER FUNCTION:

**def** reverse(a):  
 n=a  
 rev = 0  
 rem = 0  
 **while** n != 0:  
 rem = n % 10  
 rev = rev \* 10 + rem  
 n = n // 10  
 print(rev)

#DIVISIBILITY BY A NUMBER FUNCTION:

**def** divisible(a,b):  
 **if** a%b==0:  
 print(**"{} is divisible by {}"**.format(a,b))  
 **else**:  
 print(**"{} is not divisible by {}"**.format(a,b))

#FACTORIAL OF A NUMBER FUNCTION:

**def** factorial(a):  
 i = 1  
 fact = 1  
 **if** a == 0:  
 print(**"Factorial = 1"**)  
 **elif** a < 0:  
 print(**"Factorial of negative avlue not possible"**)  
 **else**:  
 **while** i <= a:  
 fact = fact \* i  
 i = i + 1  
 print(**"Factorial is :"**, fact)

#ARMSTRONG NUMBER FUNCTION:

**def** armstrong(a):  
 c = str(a)  
 l = len(c)  
 arm = a  
 sum = 0  
 **while** a != 0:  
 rem = a % 10  
 sum = sum + (rem\*\*l)  
 a = a // 10  
 **if** arm == sum:  
 print(**"Armstrong Number"**)  
 **else**:  
 print(**"Not an Armstrong Number"**)

#COMPOSITE NUMBER FUNCTION:

**def** prime\_composite(a):  
 **if** a > 1:  
 **for** i **in** range(2, (a // 2) + 1):  
 **if** a % i == 0:  
 print(**"Composite Number"**)  
 **break  
 else**:  
 print(**"Prime Number"**)  
 **else**:  
 print(a, **"is a Composite number"**)

#GCD FUNCTION:

**def** gcd(a,b):  
 **if** a == 0 **or** b == 0:  
 print(**"Value must be non zero"**)  
 **else**:  
 **if** a < b:  
 result = a  
 **else**:  
 result = b  
 **while** result:  
 **if** a % result == 0 **and** b % result == 0:  
 **break** result = result - 1  
 print(**"Greatest Common Divisor:"**, result)

#SUM TILL 0-Nth NUMBER:

**def** sum\_till\_nth(a):  
 i = 0  
 sum = 0  
 **while** (i <= a):  
 sum = sum + i  
 i = i + 1  
 **else**:  
 **while** (a <= 0):  
 sum = sum + a  
 a = a + 1  
 print(**"Sum till {}th Number:"**.format(a), sum)

#FIBONACCI FUNCTION:

**def** fibbonaci(a):  
 n = 0  
 b = 1  
 i = 0  
 **while** (i <= a):  
 print(n, end=**" "**)  
 res = n + b  
 n = b  
 b = res  
 i = i + 1

#PERFECT NUMBER FUNCTION:

**def** perfect(a):  
 x = 0  
 **for** i **in** range(1, a):  
 **if** (a % i == 0):  
 x = x + i  
 **if** (x == a):  
 print(**"The number {} is a Perfect number"**.format(a))  
 **else**:  
 print(**"The number {} is not a Perfect number"**.format(a))