Task #1:

# fibg()-A generator for Fibonacci sequence

#return first n+1 elements

def fibg2(n):

fibMinus2=1

fibMinus1=1

count=0

while True:

fibOld=fibMinus2

fibI=fibMinus2+fibMinus1

fibMinus2=fibMinus1

fibMinus1=fibI

if count > n:

raise StopIteration

count += 1

yield fibOld

Task #2

# find n prime numbers

def prime(n):

p1=1

count=0

while True:

pOld=p1

prime=0

pI=p1+1

while (prime==0):

prime=1

for i in range(2,pI):

if pI % i == 0:

prime=0

pI=pI+1

p1=pI-1

count += 1

if count > n:

raise StopIteration

yield pOld

Task #3

#recursive definition of the Factorial function and memorize it

def memorize(f):

memo={}

def helper(n):

if n not in memo:

memo[n]=f(n)

return memo[n]

return helper

def factorial(n):

if n==0 or n==1:

return 1

else:

return factorial(n-1)\*n