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import numpy as np

def pgcd(m, n):
    while (m != 0):
        r = n % m
        n = m
        m = r
    return(int(n))

def prime(atester):
    k = 2
    if atester in [0, 1]: return False
    if atester in [2, 3, 5, 7]: return True
    while True:
        if k * k > atester: return True
        else:
            if atester % k == 0: return False
            else: k = k + 1

n = 34
tp = np.zeros((n,n),dtype = 'int')
tp[0,0] = 1
for j in range(1,n):
    for k in range(n):
        tp[j,k] = tp[j-1,k]+tp[j-1,k-1]
for j in range(33):
    print('ligne ',j,' --> ',tp[j])
for k in range(3,33):
    if k%2 == 0:
        moitie = k//2
    else:
        moitie = (k-1)//2
    indicecourant = moitie
    pgcdcourant = tp[k,indicecourant]
    stop = False
    while pgcdcourant > 1 and not stop:
        indicecourant = indicecourant-1
        pgcdcourant = pgcd(pgcdcourant,tp[k,indicecourant])
        if pgcdcourant == 1:
            stop = True
    print('b(',k,') = ',indicecourant+1)

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