```
import numpy as np
import scipy
from scipy.linalg import eigvals

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

n = 20
M = np.zeros((n,n),dtype = 'int')
Quedesun = np.zeros((n,n),dtype='int')
for x in range(n):
    for y in range(n):
        Quedesun[x,y] = 1
for y in range(n):
    M[y,0] = 1
for x in range(n):
    for y in range(x+1):
        M[x-1,y-1] = (pgcd(x+1,y) == 1)
print('M = \n',M)
print('Quedesun = \n',Quedesun)
res1 = M.dot(Quedesun)
print('res1 = ',res1)
for k in range(2,n):
    print(k,' --> ',res1[k-2,k-2])
```