```python
import numpy as np

# I.

def addition(T1, T2):
    return T1+T2

def somme(T):
    res = 0
    for i in range(len(T)):
        res += T[i]
    return res

def produit_scalaire(T1, T2):
    return somme(T1*T2)

def norme(T):
    return produit_scalaire(T, T)**0.5

def perpendiculaire(T1, T2):
    return produit_scalaire(T1, T2) == 0

# II

M1 = np.array([[1, 2], [4, 3], [2, 0]])

def maxi(M):
    res = M[0][0]
    for i in range(len(M)):
        for j in range(len(M[0])):
            if M[i][j] > res:
                res = M[i][j]
    return res

def produit_matrices(M1, M2):
    n, p = len(M1), len(M2[0])
    res = np.zeros((n, p))
    for i in range(n):
        for j in range(p):
            for k in range(len(M1[0])):
                res[i][j] += M1[i][k]*M2[k][j]
    return res

def puissance(M, k):
    res = M.copy()
    for i in range(k-1):
        res = res * M
    return res
```