```python
import numpy as np
from Magic import magic

M = magic(5)
print('---- M----')
print(M)

print('\n---- M.sum(0) ----')
print(M.sum(0))

print('\n---- M.sum(1) ----')
print(M.sum(1))

print('\n---- np.sum(M.diag()) ----')
print(np.sum(np.diag(M)))




D = np.array([[16,3,2,13],[5,10,11,8],[9,6,7,12],[4,15,14,1]],
dtype=np.float64)
print('--- D.sum(axis=0) soma as colunas ----------------------')
print(D.sum(axis=0))
print('--- D.sum(1) soma as linhas ---------------------')
print(np.sum(D,axis=1))
print('\n---- np.sum(D.diag()) soma a diagonal ----')
print(np.sum(np.diag(D)))
def teste_magic(m):
    if m.sum(axis=0)[0] == np.sum(m,axis=1)[0] == np.sum(np.diag(m)):
        return True
    else:
        return False


M3 = magic(3)
M5 = magic(5)

teste_magic(D)
teste_magic(M3)
teste_magic(M)


---- M----
[[17 24  1  8 15]
 [23  5  7 14 16]
 [ 4  6 13 20 22]
 [10 12 19 21  3]
 [11 18 25  2  9]]
```

```
---- M.sum(0) ----
[65 65 65 65 65]

---- M.sum(1) ----
[65 65 65 65 65]

---- np.sum(M.diag()) ----
65
--- D.sum(axis=0) soma as colunas ----------------------
[34. 34. 34. 34.]
--- D.sum(1) soma as linhas ----------------------
[34. 34. 34. 34.]

---- np.sum(D.diag()) soma a diagonal ----
34.0

True
```