

Slicing & element-wise operation

Your task is to implement these function (detail is in the comment)

```
import numpy as np

def sum_2_rows( M ):
    # Return summation in each column of 2 adjacent rows.
    # Ex M = [[ 0, 1, 2, 3 ],      is [[ 4, 6, 8, 10 ],
    #       [ 4, 5, 6, 7 ],      [ 20, 22, 24, 26 ]]
    #       [ 8, 9, 10, 11 ],
    #       [12, 13, 14, 15]]

def sum_left_right( M ):
    # Return summation of left half and right half of M
    # Ex M = [[ 0, 1, 2, 3 ],      is [[ 2, 4 ],
    #       [ 4, 5, 6, 7 ],      [ 10, 12 ],
    #       [ 8, 9, 10, 11 ],      [ 18, 20 ],
    #       [12, 13, 14, 15]]      [ 26, 28 ]]

def sum_upper_lower( M ):
    # Return summation of upper half and lower half of M
    # Ex M = [[ 0, 1, 2, 3 ],      is [[ 8, 10, 12, 14 ],
    #       [ 4, 5, 6, 7 ],      [16, 18, 20, 22 ]]
    #       [ 8, 9, 10, 11 ],
    #       [12, 13, 14, 15]]

def sum_4_quadrants( M ):
    # Return summation in the same position from 4 quadrants
    # Ex M = [[ 0, 1, 2, 3 ],      is [[20, 24],
    #       [ 4, 5, 6, 7 ],      [36, 40]]
    #       [ 8, 9, 10, 11 ],
    #       [12, 13, 14, 15]]

def sum_4_cells( M ):
    # Return summation of 4 adjacent numbers according to the pattern below.
    # Ex M = [[ 0, 1, 2, 3 ],      is [[10, 18],
    #       [ 4, 5, 6, 7 ],      [42, 50]]
    #       [ 8, 9, 10, 11 ],
    #       [12, 13, 14, 15]]

def count_leap_years( years ):
    # Years is array which contains Buddhist years
    # Return the number of leap years (years which have 366 days) in years

exec(input().strip()) # This command is necessary to grade your answer
```

Input

Python commands which are used to test the functions.

Output

Result from the program.

Example

Input (from keyboard)	Output (on screen)
<code>print(sum_2_rows(np.arange(36).reshape(6,6)))</code>	<code>[[6 8 10 12 14 16] [30 32 34 36 38 40] [54 56 58 60 62 64]]</code>
<code>print(sum_left_right(np.arange(36).reshape(6,6)))</code>	<code>[[3 5 7] [15 17 19] [27 29 31] [39 41 43] [51 53 55] [63 65 67]]</code>
<code>print(sum_upper_lower(np.arange(36).reshape(6,6)))</code>	<code>[[18 20 22 24 26 28] [30 32 34 36 38 40] [42 44 46 48 50 52]]</code>
<code>print(sum_4_quadrants(np.arange(36).reshape(6,6)))</code>	<code>[[42 46 50] [66 70 74] [90 94 98]]</code>
<code>print(sum_4_cells(np.arange(36).reshape(6,6)))</code>	<code>[[14 22 30] [62 70 78] [110 118 126]]</code>
<code>print(count_leap_years(np.array([2543,2559,2560])))</code>	<code>2</code>