**Justin\_Array\_0054.**  **Spiral Matrix**

**Concept:**

[[1, 1, 1, 1, 1, 1, 1],

[4, 5, 5, 5, 5, 5, 2],

[4, 8, 9, 9, 9, 6, 2],

[4, 8, 7, 7, 7, 6, 2],

[4, 3, 3, 3, 3, 3, 2]]

照以上數字進行走訪

# yield 就是 return，但程式會繼續執行

# dict.get("A",0) ==> 輸出 A 的值，沒有 A 的話則輸出 0

**Code:**

class Solution:

def spiralOrder(self, matrix: List[List[int]]) -> List[int]:

def spiral\_coords(r1, c1, rn, cn):

for i in range(c1, cn + 1):

yield r1, i

for j in range(r1 + 1, rn + 1):

yield j, cn

if r1 < rn and c1 < cn:

for i in range(cn - 1, c1, -1):

yield rn, i

for j in range(rn, r1, -1):

yield j, c1

if not matrix:

return []

result = []

r1, r2 = 0, len(matrix) - 1

c1, c2 = 0, len(matrix[0]) - 1

while r1 <= r2 and c1 <= c2:

for r, c in spiral\_coords(r1, c1, r2, c2):

result.append(matrix[r][c])

r1 += 1; r2 -= 1

c1 += 1; c2 -= 1

return result

arrow\_length(root)

return self.result