

Pascal's Triangle II

Question: Given an index k, return the kth row of the Pascal's triangle.

For example, given k = 3, Return [1,3,3,1].

Note: Could you optimize your algorithm to use only $O(k)$ extra space?

Solutions:

class Solution:

@return a list of integers

def getRow(self, rowIndex):

if rowIndex == 0: return [1]

if rowIndex == 1: return [1, 1]

result = [1]

nextDivisor = 1

nextMultiplier = rowIndex

for _ in range(rowIndex // 2):

nextVal = int((result[-1] * nextMultiplier) / nextDivisor)

result.append(nextVal)

nextDivisor += 1

nextMultiplier -= 1

if rowIndex % 2 == 1: result.extend(result[::-1])

else: result.extend(result[-2::-1])

return result

Solution().getRow(3)