mat[2][0] = 31   func1(mat, 3, 4)

mat[1][0] = 10   func1(mat, 2, 4)   func2(mat[2], 4)

mat[0][0] = 1   func1(mat, 1, 4)   func2(mat[1], 4)

func1(mat, 0, 4)   func2(mat[0], 4)

return 1

return 10 + 6 + 7 + 8

return 1 + 2 + 3 + 4

func1 is called repeatedly before finally returning mat[0][0] (1), which is returned to the last function call (func1(mat, 1, 4). This sets mat[n-1][0] equal to the returned value 1. In other words, mat[0][0] = 1. Then func1(mat, 1, 4) continues and calls func2(mat[0], 4), which returns the sum of the integers in mat[0] (10). This is returned to func1(mat, 2, 4), which sets mat[1][0] = 10. func1(mat, 2, 4) continues and calls func2(mat[1], 4), which returns the sum of integers in mat[1] (31). This is returned to func1(mat, 3, 4), which sets mat[2][0] = 31. The new contents of mat is:

mat[0] = 1 2 3 4   mat[0][0] = still 1

mat[1] = 10 6 7 8   mat[1][0] changed to 10

mat[2] = 31 10 11 12   mat[2][0] changed to 31