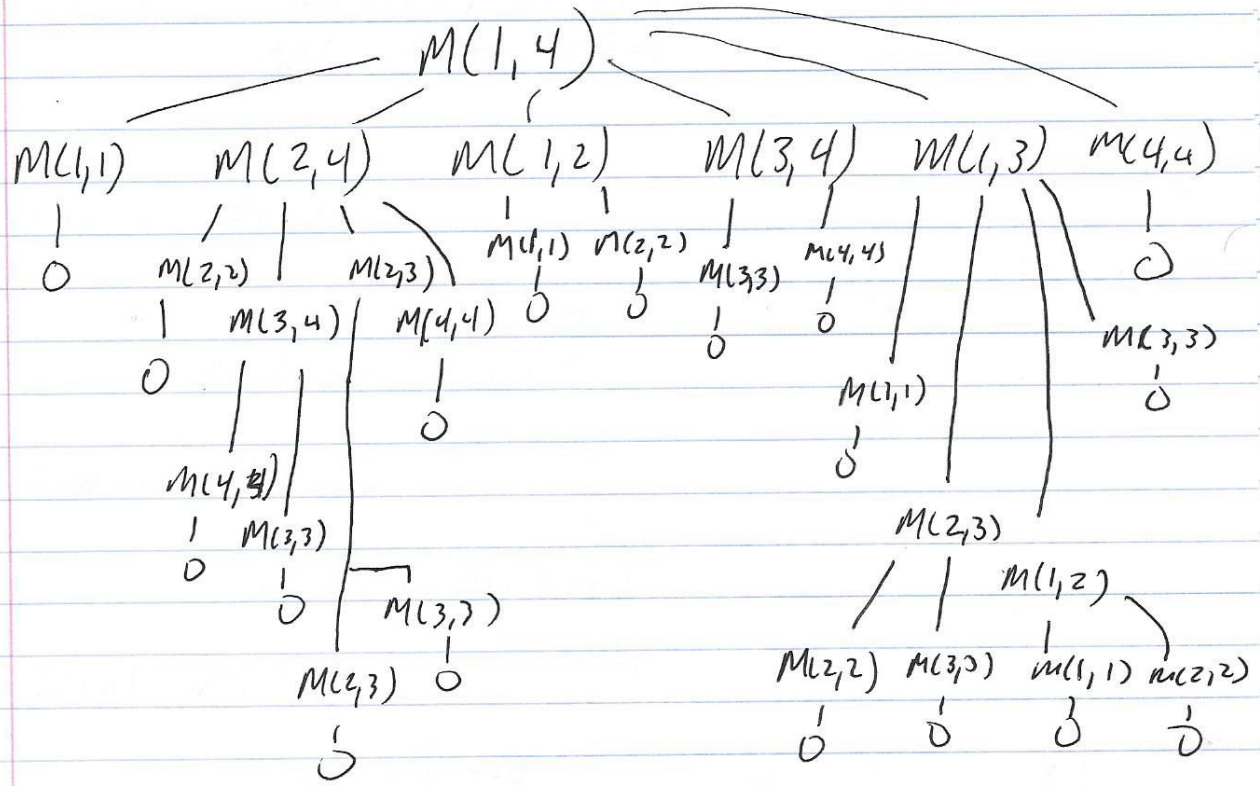
Project 2 Ryan English 03/06/21

Draw Recursive Tree of M(1,4)



Depth = 4 = j

i=j return 0 → height of 1

for i to j
2 calls

n
2^n

$$T(n) = \begin{cases} 1 & \text{if } n=1 \\ 1 + \sum_{k=1}^{n-1} T(k) + T(k+1) & \text{if } n \geq 2 \end{cases}$$

$$\boxed{T(n) = \Omega(2^n)}$$

Recursive
$T(n) = \Omega(2^n)$

Iteration
$T(n) = O(n^3)$

Recursive is much slower