

The space complexity for the IntGrid2D implementation is polynomial for the upper bound ( $O(w^2)$ ) and constant for the lower bound  $\omega(h)$ . The maximum amount of space occurs when  $w$  and  $h$  are approximately equal, creating a square. The minimum amount of space occurs when  $w$  is 1  $h$  can be any number, resulting in a constant slope of  $h$ .