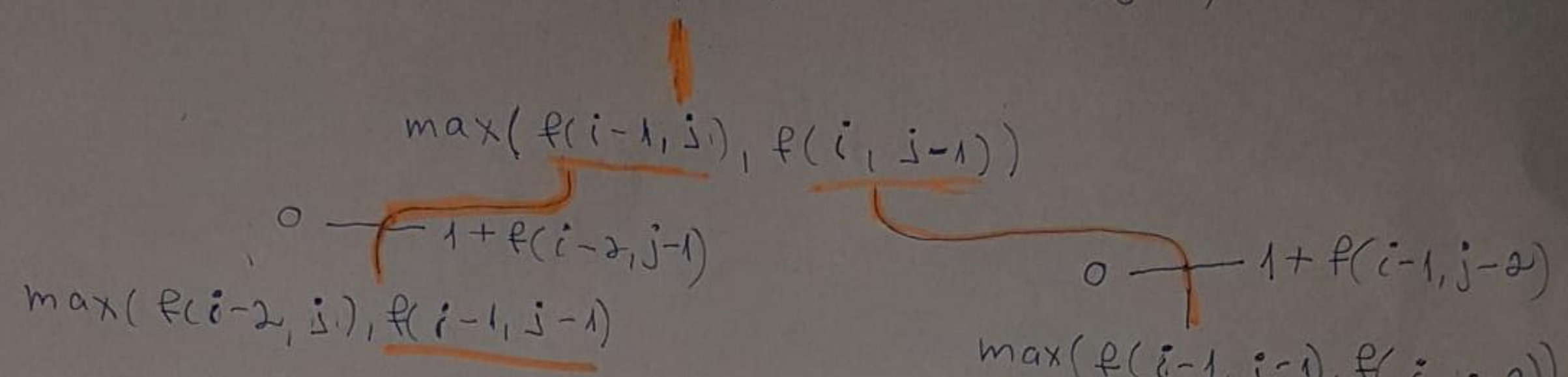
Dynamic Programming Motivation

Let $(a_n)_{n\in\mathbb{N}}$, $(b_m)_{m\in\mathbb{N}}$

Let $1 \le i \le n$, $1 \le j \le m$

Let us write the recursion tree from the recursive call $f(i, j)$.



There's a possibility that we'll need to compute more than once the recursive call $f(i-1, j-1)$.

We can store the return value of that recursive call and therefore compute it only once.