53. Maximum Subarray

Find the subarray w/ the largest sum, return that sum

Sliding Window
DP

⓪ $l = r = 0$

Initial Sliding Window is just the first element

Iterate $\rightarrow r$

At every iteration, $f(x)$ = max subarray terminating at $nums[:r+1]$

$$f(x) = \max \begin{cases} f(x-1) + nums[x] \\ nums[x] \end{cases}$$

One of the subarrays found during iteration will be the max, compare sums

-2 1 -3 4 -1 2 1 -5 4

-2

1

-2

4

3

5

6

1

5

TC: O(n)

SC: O(1) don't need to store entire DP array only dp(x-1)