

# 198. House Robber

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You are a professional robber planning to rob houses along a street. Each house has a certain amount of money stashed, the only constraint stopping you from robbing each of them is that adjacent houses have security systems connected and **it will automatically contact the police if two adjacent houses were broken into on the same night.**

Given an integer array `nums` representing the amount of money of each house, return *the maximum amount of money you can rob tonight without alerting the police.*

## Example 1:

**Input:** `nums = [1,2,3,1]`

**Output:** 4

**Explanation:** Rob house 1 (money = 1) and then rob house 3 (money = 3).

Total amount you can rob = 1 + 3 = 4.

## Example 2:

**Input:** `nums = [2,7,9,3,1]`

**Output:** 12

**Explanation:** Rob house 1 (money = 2), rob house 3 (money = 9) and rob house 5 (money = 1).

Total amount you can rob = 2 + 9 + 1 = 12.

```
def rob(self, arr: List[int]) -> int:
    n = len(arr)
    if len(arr)<3:
        return max(arr)
    dp = [0]*(n+1)
    dp[0] = 0
    dp[1] = arr[0]
    dp[2] = max(arr[0],arr[1])
    for i in range(3,n+1):
        dp[i] = max(arr[i-1]+max(dp[i-2],dp[i-3]),dp[i-1])
    return dp[n]
```