

28. You are given an array `nums` consisting of integers. You are also given a 2D array `queries`, where `queries[i] = [posi, xi]`. For query `i`, we first set `nums[posi]` equal to `xi`, then we calculate the answer to query `i` which is the maximum sum of a subsequence of `nums` where no two adjacent elements are selected. Return the sum of the answers to all queries. Since the final answer may be very large, return it modulo  $10^9 + 7$ . A subsequence is an array that can be derived from another array by deleting some or no elements without changing the order of the remaining elements.

PROGRAM:

```
def maxSumNoAdjacent(nums):  
    include = 0  
    exclude = 0  
    for num in nums:  
        temp = include  
        include = max(num + exclude, include)  
        exclude = temp  
    return max(include, exclude)  
  
def sumOfMaxSubsequenceQueries(nums, queries):  
    result = 0  
    for query in queries:  
        posi, xi = query  
        nums[posi] = xi  
        result += maxSumNoAdjacent(nums)  
    return result % (10**9 + 7)  
  
nums = [1,2,3,4,5]  
queries = [[0,6],[1,7],[2,8]]  
print(sumOfMaxSubsequenceQueries(nums, queries))
```

47

OUTPUT:

TIME COMPLEXITY:  $O(q \cdot n)$