Question :

Given an array of integers(positive as well as negative) ,select some elements from this array(select a subset) such that:-

1. Sum of those elements is maximum(Sum of the subset is maximum) .

2. No two elements in the subset should be consecutive.

Observation :

* We can calculate the value for the index 0 , 1 and 2 by pure observation.
* For index 3 , we have the two options either include or exclude
* If we include , then add the element sum which is one index before and

private static maxSum(int [] nums){

int n = nums.length;

int [] dp = new int[n];

dp[0] = nums[0];

dp[1] = nums[1];

dp[2] = nums[2] + nums[0];

for(int i = 3 ; i < n ; i++){

dp[i] = math.max(dp[i - 1] , dp[i - 2] + nums[i]);

}

return dp[n];

}