A non-empty zero-indexed array A consisting of N integers is given. A pair of integers (P, Q), such that 0 ≤ P ≤ Q < N, is called a *slice* of array A. The *sum* of a slice (P, Q) is the total of A[P] + A[P+1] + ... + A[Q].

Write a function:

class Solution { public int solution(int[] A); }

that, given an array A consisting of N integers, returns the maximum sum of any slice of A.

For example, given array A such that:

A[0] = 3 A[1] = 2 A[2] = -6

A[3] = 4 A[4] = 0

the function should return 5 because:

* (3, 4) is a slice of A that has sum 4,
* (2, 2) is a slice of A that has sum −6,
* (0, 1) is a slice of A that has sum 5,
* no other slice of A has sum greater than (0, 1).

Assume that:

* N is an integer within the range [1..1,000,000];
* each element of array A is an integer within the range [−1,000,000..1,000,000];
* the result will be an integer within the range [−2,147,483,648..2,147,483,647].

Complexity:

* expected worst-case time complexity is O(N);
* expected worst-case space complexity is O(N), beyond input storage (not counting the storage required for input arguments).

Elements of input arrays can be modified.