Lesson 3, Task 3: Missing Element in Permutation

A zero-indexed array A consisting of N different integers is given. The array contains integers in the range [1..(N + 1)], which means that exactly one element is missing.

Your goal is to find that missing element.

Write a function:

int solution(int A[], int N);

that, given a zero-indexed array A, returns the value of the missing element.
For example, given array A such that:
  A[0] = 2
  A[1] = 3
  A[2] = 1
  A[3] = 5
the function should return 4, as it is the missing element.

Assume that:
    •   N is an integer within the range [0..100,000];
    •   the elements of A are all distinct;
    •   each element of array A is an integer within the range [1..(N + 1)].

Complexity:
    •   expected worst-case time complexity is O(N);
    •   expected worst-case space complexity is O(1), beyond input storage (not counting the storage required for input arguments).
Elements of input arrays can be modified.