1. **Algorithm**

Given an array **nums** containing n distinct numbers in the range **[0, n]**, return the only number in the range that is missing from the array.  
  
**Example 1:**

**Input:** nums = [3,0,1]

**Output:** 2

**Explanation:** n = 3 since there are 3 numbers, so all numbers are in the range [0,3]. 2 is the missing number in the range since it does not appear in nums.  
  
**Example 2:**

**Input:** nums = [0,1]

**Output:** 2

**Explanation:** n = 2 since there are 2 numbers, so all numbers are in the range [0,2]. 2 is the missing number in the range since it does not appear in nums.

**Example 3:**

**Input:** nums = [9,6,4,2,3,5,7,0,1]

**Output:** 8

**Explanation:** n = 9 since there are 9 numbers, so all numbers are in the range [0,9]. 8 is the missing number in the range since it does not appear in nums.