**Technical Test**

Please use C# to complete these tasks, they can be done in any IDE. Take all the time you need and come with the implementation for the problems before our interview.

**Problem 1: Check for Balanced Brackets in an expression**  
Given an expression string **exp**, write a program to examine whether the pairs and the orders of “{“, “}”, “(“, “)”, “[“, “]” are correct in the given expression.

***Example***:  
***Input****: exp = “[()]{}{[()()]()}”****Output****: Balanced****Explanation:****all the brackets are well-formed*

***Input****: exp = “[(])”****Output****: Not Balanced****Explanation: 1****and****4****brackets are not balanced because   
there is a closing ‘]’ before the closing ‘(‘*

**Problem 2: Single Number**

**Given a non-empty array of integers nums, every element appears twice except for one. Find that single one.**

***Example 1***:

***Input****: nums = [2,2,1]****Output****: 1*

***Example 2***:

***Input****: nums = [4,1,2,1,2]****Output****: 4*

***Example 3***:

***Input****: nums = [1]****Output****: 1*