**Find The Duplicated Number in a Consecutive Unsorted List**

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C#

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You are given an array of n+1 integers 1 through n. In addition there is a single duplicate integer.

The array is unsorted.

An example valid array would be [3,2,5,1,3,4]. It has the integers 1 through 5 and 3 is duplicated. [1,2,4,5,5] would not be valid as it is missing 3.

You should return the duplicate value as a single integer.

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using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

public static int FindDup(int[] arr)

{

int n = arr.Length-1;

int sumSec = (n \* (n + 1)) / 2;

int sum = arr.Sum();

return sum - sumSec;

}

static void Main(string[] args)

{

int[] arr = { 3, 2, 5, 1, 3, 4 };

Console.WriteLine(FindDup(arr));

Console.ReadLine();

}

}

}