**7 kyu**

**Product Array (Array Series #5)**

15889% of 18422 of807[MrZizoScream](https://www.codewars.com/users/MrZizoScream)

C#

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**Introduction and Warm-up (Highly recommended)**

[**Playing With Lists/Arrays Series**](https://www.codewars.com/collections/playing-with-lists-slash-arrays)

**Task**

***Given*** an *array/list [] of integers* , ***Construct*** a *product array****Of same size****Such That prod[i] is equal to The Product of all the elements of Arr[] except Arr[i]*.

**Notes**

* ***Array/list*** size is *at least 2* .
* ***Array/list's numbers*** Will be ***only Postives***
* ***Repeatition*** of numbers in *the array/list could occur*.

**Input >> Output Examples**

1- productArray ({12,20}) ==> return {20,12}

***Explanation***:

* ***The first element*** *in prod [] array* ***12*** *is the product of all array's elements except the first element*
* ***The second element*** ***20*** *is the product of all array's elements except the second element* .

2- productArray ({1,5,2}) ==> return {10,2,5}

***Explanation***:

* ***The first element*** ***10*** *is the product of all array's elements* ***except*** *the first element****1***
* ***The second element*** ***2*** *is the product of all array's elements* ***except*** *the second element* ***5***
* ***The Third element*** ***5*** *is the product of all array's elements* ***except*** *the Third element* ***2***.

3- productArray ({10,3,5,6,2}) return ==> {180,600,360,300,900}

***Explanation***:

* ***The first element*** ***180*** *is the product of all array's elements* ***except*** *the first element* ***10***
* ***The second element*** ***600*** *is the product of all array's elements* ***except*** *the second element* ***3***
* ***The Third element*** ***360*** *is the product of all array's elements* ***except*** *the third element* ***5***
* ***The Fourth element*** ***300*** *is the product of all array's elements* ***except*** *the fourth element* ***6***
* *Finally* ,***The Fifth element*** ***900*** *is the product of all array's elements* ***except*** *the fifth element* ***2***

[**A more challenging version of this kata by Firefly2002**](https://www.codewars.com/kata/array-product-sans-n)

[**Playing with Numbers Series**](https://www.codewars.com/collections/playing-with-numbers)

[**Playing With Lists/Arrays Series**](https://www.codewars.com/collections/playing-with-lists-slash-arrays)

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ALL translations are welcomed

Enjoy Learning !!

**Zizou**

<https://www.codewars.com/kata/product-array-array-series-number-5/csharp>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp1

{

class Program

{

public static int[] ProductArray(int[] array)

{

int prod = 1;

for(int i =0; i<array.Length; i++)

{

prod \*= array[i];

}

List<int> ans = new List<int>();

for(int i =0; i<array.Length; i++)

{

ans.Add(prod / array[i]);

}

return ans.ToArray();

}

static void Main(string[] args)

{

//3 - productArray({ 10,3,5,6,2}) return ==> { 180,600,360,300,900}

foreach (int item in ProductArray(new int[]{ 10,3,5,6,2}))

{

Console.Write(item + " ");

}

Console.ReadLine();

}

}

}