**EPAM- LAB-6**

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**Task1: Develop a** MyExtension **class, which declares the following extension methods:**

- the **SummaDigit** method, which extends the Int32 type and returns the sum of the digits of an arbitrary integer.

```
Example 1: n = 1274    result = 14 (14 = 1 + 2 + 7 + 4)
```

- the **SummaWithReverse** method, which extends the UInt32 type and returns the sum of the original positive integer with the number obtained from the original by rearranging all digits in reverse order

```
Example 2: n = 132    result = 363 (363 = 132 + 231)
```

- the **CountNotLetter** method, which extends the String type and returns the number of characters in the string that are not Latin letters.

```
Example 3: s = "I like C#"   result = 3 (there are two spaces
and a "sharp" character in the line)
```

- the **IsDayOff** method, which extends the DayOfWeek type and returns the boolean value true if it is a weekend (Saturday or Sunday) or the boolean value false if it is a weekday.

```
Example 4: day = DayOfWeek.Sunday  result = true
```

- the **EvenPositiveElements** method, which extends the IEnumerable <int> type and returns only even positive numbers from a set of integers

```
Example 5: int[] mas = { 2, -2, 3, 4, 0, 6, 1, 9 }     result =
2 , 4, 6
Example 6: for List<int> list = new List<int>{ 2, 3, -4, 8, 5,
4 }   result = 2, 8, 4
```

```csharp
1          // See https://aka.ms/new-console-template for more information
2      using System;
3      using System.Collections.Generic;
4      using System.Linq;
5
       0 references
6      public static class MyExtension
7      {
         1 reference
8          public static int SummaDigit(this int number){
9              int sum = 0;
10             while (number != 0) {
11                 sum += number % 10;
12                 number /= 10;         }
13             return sum;
14         }
         1 reference
15         public static uint SummaWithReverse(this uint number){
16             uint reversedNumber = 0;
17             uint temp = number;
18             while (temp != 0){
19                 reversedNumber = reversedNumber * 10 + temp % 10;
20                 temp /= 10;
21             }
22             return number + reversedNumber;
23         }
         1 reference
24         public static int CountNotLetter(this string str)
25         {
26             return str.Count(c => !char.IsLetter(c));
27         }
         1 reference
28         public static bool IsDayOff(this DayOfWeek day)
29         {
30             return day == DayOfWeek.Saturday || day == DayOfWeek.Sunday;
31         }
         2 references
32     public static IEnumerable<int> EvenPositiveElements(this IEnumerable<int> collection)
33     {
34         return collection.Where(x => x > 0 && x % 2 == 0);
35     }
36     }
     0 references
37     class Program{
       0 references
38     static void Main(string[] args)   {
39         int n1 = 1274;
40         Console.WriteLine($"Sum of digits of {n1}: {n1.SummaDigit()}");
41
42         uint n2 = 132;
43         Console.WriteLine($"Sum with reverse of {n2}: {n2.SummaWithReverse()}");
44
45         string s = "I like C#";
46         Console.WriteLine($"Number of non-letter characters in \"{s}\": {s.CountNotLetter()}");
47
48         DayOfWeek day = DayOfWeek.Sunday;
49         Console.WriteLine($"Is {day} a day off? {day.IsDayOff()}");
50
51         int[] array = { 2, -2, 3, 4, 0, 6, 1, 9 };
52         Console.WriteLine($"Even positive elements in array: {string.Join(", ", array.EvenPositiveElements())}");
53
54         List<int> list = new List<int> { 2, 3, -4, 8, 5, 4 };
55         Console.WriteLine($"Even positive elements in list: {string.Join(", ", list.EvenPositiveElements())}");
56     }
57     }
58
```

**Output:**

```
Sum of digits of 1274: 14
Sum with reverse of 132: 363
Number of non-letter characters in "I like ?#": 3
Is Sunday a day off? True
Even positive elements in array: 2, 4, 6
Even positive elements in list: 2, 8, 4

C:\Users\Bhavana\Documents\EPAM\lab6-task1\lab6-task1\bin\
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To automatically close the console when debugging stops, e
le when debugging stops.
Press any key to close this window . . .
```