

Programming Advanced for QA – Regular Exam

17 December 2023

Submit your zip file here: <https://judge.softuni.org/Contests/Compete/Index/4499#1>

2. Unit Test: Number Frequency

Test a given method which takes in a **number (positive or negative)** and gets the **count of each digit**.

Examples

Argument	Returned dictionary
35353532	3 -> 4 times 5 -> 3 times 2 -> 1 time
11111	1 -> 5 times
-2323233	2 -> 3 times 3 -> 4 times

The method is found in the **NumberFrequency.cs** file:

```
public class NumberFrequency
{
    4 references
    public static Dictionary<int, int> CountDigits(int number)
    {
        number = Math.Abs(number);

        Dictionary<int, int> digitFrequency = new();

        while (number > 0)
        {
            int digit = number % 10;
            digitFrequency.TryAdd(digit, 0);
            digitFrequency[digit]++;
            number /= 10;
        }

        return digitFrequency;
    }
}
```

You are given a **test file NumberFrequencyTests.cs** containing **4 empty tests**. Implement all tests:

```

public class NumberFrequencyTests
{
    [Test]
    0 references
    public void Test_CountDigits_ZeroNumber_ReturnsEmptyDictionary()...

    [Test]
    0 references
    public void Test_CountDigits_SingleDigitNumber_ReturnsDictionaryWithSingleEntry()...

    [Test]
    0 references
    public void Test_CountDigits_MultipleDigitNumber_ReturnsDictionaryWithDigitFrequencies()...

    [Test]
    0 references
    public void Test_CountDigits_NegativeNumber_ReturnsDictionaryWithDigitFrequencies()...
}

```

Note! You may need to test if result collection is equal to expected.

When you are ready make sure your **tests run**:

```

└─ ✓ NumberFrequencyTests (4)
    ✓ Test_CountDigits_MultipleDigitNumber_ReturnsDictionaryWithDigitFrequencies
    ✓ Test_CountDigits_NegativeNumber_ReturnsDictionaryWithDigitFrequencies
    ✓ Test_CountDigits_SingleDigitNumber_ReturnsDictionaryWithSingleEntry
    ✓ Test_CountDigits_ZeroNumber_ReturnsEmptyDictionary

```

IMPORTANT: DO NOT REMOVE OR CHANGE ANY NAMESPACES AND USING.