Aspose Developer Technical Test (.NET)

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Introduction

This Technical Test consists of a few programming tasks which vary in difficulty. Rather than ask multiple choice questions, this test asks you to actually write, test and document real code. There are **2 test tasks** which combined should take **less than 2 hours to complete**.

Particularly on the second test there are many levels to which it could be taken, so although you may take as long as you need and be as creative as you wish with your solutions, you should be honest about how long you took in the documentation accompanying your solution.

You should write your code in the appropriate IDE, and fully test it before submitting it (please add comments to indicate any submitted code which does not meet the requirements of the task 100%). You should also submit some documentation on each solution.

In addition to providing a 2 Class Library projects, containing the solution to each of the tasks, **you should also provide a simple Console Application with a command-line or menu-based UI which allows for easy testing of each of the 2 solutions.** The testing application should come with documentation on how to compile and run each of the solutions – this is also part of the test and is as important as the 2 solutions themselves. All materials should be sent back via e-mail to your Aspose contact in a single .ZIP file.

Bear in mind the following guidance;

- Your solution should be well written, efficient, and concise; adhering to accepted .NET coding standards.
- Your code should contain appropriate error handling.
- Your code should correctly dispose of resources as required.
- All code should be appropriately commented.

Task 1 – Aspose Money Bank

Task Description

- Please use Visual Studio to develop and build this task.
- Implement the missing parts of the below code, in line with the comments, documenting your solution appropriately.

If necessary, you may add auxiliary methods and static classes to this class. Please DO NOT change the given code including method signatures, class names, etc. Just add your implementation. Please include ONLY standard .NET 2.0-4.0 classes and syntax.

Task Code

```
    public class AsposeMoneyBank
    {
        public static Change getChange(int cents, Change availableChange)
        {
            /*
             * This method should take two parameters
                1.cents as an Integer, and
                2.availableChange as a Change object (see below)
             * It should return the same amount, or the maximum amount
possible,
               in dollars and coins given what change is available in the
               availableChange parameter.
             * It should use the minimum number of coins possible,
               given what is available in availableChange.
               For example: 164 cents = 1 dollar, 2 quarters, 1 dime and 4
cents.
             * Return null if the parameter is negative.
             */

            throw new NotImplementedException();
        }

        // Please do not change this class
        public class Change
        {
            private int _dollars; // 100 cents
            private int _quarters; //25 cents
            private int _dimes; // 10 cents
            private int _nickels; // 5 cents
            private int _cents; // 1 cent

            public Change(int dollars, int quarters, int dimes, int nickels,
int cents)
            {
                _dollars = dollars;
                _quarters = quarters;
                _dimes = dimes;
                _nickels = nickels;
                _cents = cents;
            }

            public int getDollars()
            {
                return _dollars;
            }

            public int getQuarters()
            {
```

```
            return _quarters;
        }

        public int getDimes()
        {
            return _dimes;
        }

        public int getNickels()
        {
            return _nickels;
        }

        public int getCents()
        {
            return _cents;
        }
    }
}
```

Task 2 – Aspose Maps

Task Description

- Please use Visual Studio to develop and build this task.
- You will also need to use the Google Maps Web Service for this task (http://code.google.com/apis/maps/documentation/webservices/index.html).
- Both the ability to parse and write files and also, investigate and use web-services are key elements of this test.
- Implement the missing parts of the below code, in line with the comments, documenting your solution appropriately.
- You should limit yourself to 1-2 hours for this test, and document what you achieved in that time and any challenges etc. you came across and how you would approach it differently in future.
- I'd encourage you to be as creative as you like with this task.

If necessary, you may add auxiliary methods and static classes to this class. You may change the initial code provided in any way should you believe it benefits the solution. Please include ONLY standard .NET 2.0-4.0 classes and syntax.

The task is to write a Class Library which can do the following;

- Parse and validate the input file, in the provided format, containing a collection of to and from addresses.
- For each **to** and **from** address provided in the input file the solution should query the Google Maps Directions API for directions.
- You should write the output to separate HTML files formatted to make it easy to read, and provide a Contents HTML file which links to the others. The HTML should be well formed and standard compliant.
- *Optional:* For additional points if you have time you can try and provide a Image of the plotted route using the Google Maps API.

Please include ONLY standard .NET 2.0-4.0 classes and syntax in your solution.

Input File Format

Your code requires to accept an input file in the format below. This should just be a plain text file formatted as below. The parts in angled brackets are where real variables should go;

```
From: <From Address>

To: <To Address>

{repeat}
```

Here is a typical example of the above format;

```
From: Glasgow, G3 7AR, UK

To: London, W1U 6PZ, UK
```

```
From: Los Angeles

To: New York

From: CA 95014

To: CA 94043
```

Task Code

```
/* The signatures below are just suggested, you are free and indeed
 * encouraged to create whatever set of classes you consider
 * appropriate.
 * You should comment on your changes and design choices.
 */

public class AsposeParseInputFile
{
    /* In this class you should create methods and properties
     * required to parse the Input file */
}

public class AsposeCreateOutputFile
{
    /* In this class you should create methods and properties
     * required to create the Output file */
}

public class AsposeGoogleMaps
{
    /* In this class you should create methods and properties
     * required to interact with the GoogleMaps webservices. */
    }
}
```