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##################################################################
#                    Subtitle Splitter                          #
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Author   :   Yogananda Rao Locherla
Technology Stack   :   ASP.NET MVC4, AngularJs 1.6, C# 4.5
Unit Testing   :   NUnit3, Moq
Other Testing Tools :   PostMAN (Web API testing)
Development Method   :   TDD - Test Driven Development
Project Solution   :   SubtitleSplitter
Number of Projects :   4 Projects

                        1. Unit testing Project (Name - SubtitleSplitter.Tests)
                        2. Class Library (Name - SubtitleSplitterManager)
                        3. Console Application (Name - SubtitleSplitter)
                        4. Web Application [ASP.NET MVC, Web API, AngularJs] (Name - SubtitleSplitter.Web)

1. Unit testing Project (Name - SubtitleSplitter.Tests)

    This module is for Unit testing the logic written for the features in SubtitleSplitterManager
    Nuget packages used - NUnit 3.x and Moq
    Moq pacakges are used to wireup the Setup and Teardown features to create and nullify the common   ↙
    objects.
    It has 14 test cases validated for various scenarios

2. Class Library (Name - SubtitleSplitterManager)

    This module has encapsulated with whole logic needed for Subtitle Splitter project.
    It has main class named "StringManipulations" which implements IStringSplitRules, IBeautifier
        IBeautifier --> Interface

            -> Contains Beautify() abstract function, which is intended to beautify the input string.
            -> In this example, removee unnecessary white spaces in it. But we can extend as needed.

        IStringSplitRules --> Interface

            -> Contains ApplyStringSplitRules() abstract function, which is intended to apply rules   ↙
    mentioned in requirements.

        StringManipulations --> Class

            -> Implements IStringSplitRules, IBeautifier interfaces
            -> Regular Expressions are used to implement Beautify() method
            -> Followed "Red - Green - Refactor" process to improvise the code base

3. Console Application (Name - SubtitleSplitter)

    Client application to render the results in UI

4. Web Application (Name - SubtitleSplitter.Web)

    Another Client Application to render the results in UI
    Technology Stack - [ASP.NET MVC, Web API, C#, AngularJs, Bootstrap]

        ASP.NET MVC

            -> Model - Subtitle.cs
                    Having 2 properties
                        SubtitleText
                        FormattedSubtitleText

            -> View - Home --> Index.cshtml
                    It has following sctions
                        Subtitles input section in text area

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                        Button to perform ajax call to pull the subtitles
                        Splitted subtitles rendering in 3 styles..
                            1) Displaying the Current Subtitle
                            2) List all the subtitle line vise
                            3) HIGHLIGHTING the current text in YELLOW color.

            -> Controller - Used AngularJS for Controller part
                    Directory - ../Angular/app.js
                    Used following services to achieve the above functionality
                        $http
                        $scope
                        $timeout
                        $interval
                    The code written in AngularJS is compatible to minification

        Web API Controller
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            -> API Controller - SubtitleSplitterController.cs
                    "FormatAndParseTheMessage" is the Action method exposed with returns List of Subtitles



################################################################
#                     Subtitle Splitter                       #
----------------------------------------------------------------
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################################################################
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Web Output:

This screen default filled with sample text Subtitles provided in project.

Or Fill the text in textarea whatever you want to split.

Then click on Get Subtitles button. See the UI rendering as below

Current Subtitle

complete sentences or

Subtitles lines

Please write a program
that breaks this text
into small chucks.
Each chunk should have a
maximum length of 25
characters. The program
should try to break on
complete sentences or
punctuation marks if
possible. If a comma or
sentence break occurs
within 5 characters of
the max line length,
the line should be broken
early. The exception to

Highlights

Please write a program that breaks this text into small chucks. Each chunk should have a maximum length of 25 characters. The program should try to break on complete sentences or punctuation marks if possible. If a comma or sentence break occurs within 5 characters of the max line length, the line should be broken early. The exception to this rule is when the next line will only contain 5 characters. whitespace should not be counted between lines, any duplicate spaces should be removed. Does this make sense? If not please ask for further clarification, an containing the desired outcome has been provided below. Any text beyond this point is not part of the instructions, it's only here to ensure test converge. Finish line. Aaa asdf asdfjk las, asa.

The top most div shows the **current subtitle**

The first div (Subtitle Lines) in second row **display all Subtitles in a single stretch with appropriate line breaks.**

The second div (Highlights) in second row **Highlights the current subtitle displayed** in top most div.

Current Subtitle

the max line length,

Subtitles lines

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Highlights

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Test Cases

Below is the test cases screenshot which validates in 14 situations.

▲ Passed Tests (14)

✅ Return_SplitRuleCount_From_ApplyStringSpl...	< 1 ms
✅ Return_SplitRuleCount_From_ApplyStringSpl...	< 1 ms
✅ Return_SplitRuleCount_From_ApplyStringSplit...	20 ms
✅ Return_SplitRuleFifthItem_From_ApplyString...	< 1 ms
✅ Return_SplitRuleFirstItem_From_ApplyString...	< 1 ms
✅ Return_SplitRuleFourthItem_From_ApplyStri...	< 1 ms
✅ Return_SplitRuleSecondItem_From_ApplyStri...	< 1 ms
✅ Return_SplitRuleThirdItem_From_ApplyString...	< 1 ms
✅ Return_StringList_From_ApplyStringSplitRule...	< 1 ms
✅ Return_StringList_From_ApplyStringSplitRule...	< 1 ms
✅ Return_StringList_From_ApplyStringSplitRule...	< 1 ms
✅ Returns_Beutified_String_From_Text(" This is...	< 1 ms
✅ Returns_Beutified_String_From_Text("This is...	1 ms
✅ Returns_Beutified_String_From_Text("This is...	< 1 ms

Summary

Last Test Run Passed (Total Run Time 0:00:01)

✅ 14 Tests Passed