Change Case Using ToTitleCase() Labs

Perform these labs on your own computer using Visual Studio 2022 or later, or VS Code 1.8x or later, to ensure you understand the lessons presented in the corresponding videos and lectures.

Lab 1: Using the ToTitleCase() Method

Open **Visual Studio** or **VS code** and create a new **console** application.

Open the **Program.cs** file and replace the code in the file with the following.

```csharp
using System.Globalization;

string sentence;

// ************************************
// ToTitleCase Samples
// ************************************
sentence = "sENtence wIth MIxed up LettERs.";
TextInfo ti = CultureInfo.CurrentCulture.TextInfo;
Console.WriteLine(ti.ToTitleCase(sentence));
Console.WriteLine();
```

Try It Out

Run the application to see the results of the string conversion.

Lab 2: ToTitleCase() Does Not Convert Upper Case Words

In the **Program.cs** file, add the following code after the code from the previous lab.

```
// ***********************************
// Title Case Special Cases
// ***********************************
// Upper case words are not converted
sentence = "This sENtence has UPPER CASE wORds.";
Console.WriteLine(ti.ToTitleCase(sentence));
Console.WriteLine();
```

Try It Out

Run the application to see the results of the string conversion.

Lab 3: Before Applying ToTitleCase() Call ToLower()

In the **Program.cs** file, add the following code after the code from the previous lab.

```
// Not converting upper case words is good for acronyms
or organizations like UNICEF
// But can be a problem if you know the sentence should
not have any of these words
sentence = "ALL UPPER CASE SENTENCE.";
Console.WriteLine(ti.ToTitleCase(sentence));

// Use String.ToLowerInvariant() method
Console.WriteLine(ti.ToTitleCase(sentence.ToLowerInvaria
nt()));
// Use TextInfo.ToLower() method (same as
ToLowerInvariant())
Console.WriteLine(ti.ToTitleCase(ti.ToLower(sentence)));

Console.WriteLine();
```

Try It Out

Run the application to see the results of the string conversion.

Lab 4: ToTitleCase() Does Not Convert Prefixes Like 'Mc*' and Conjunctions 'And', 'Or' Correctly

In the **Program.cs** file, add the following code after the code from the previous lab.

```
// Words with prefixes like 'Mc' are not handled
sentence = "McDougal's has some fine wines.";
Console.WriteLine(ti.ToTitleCase(sentence));
Console.WriteLine();

// 'And' and 'Or' are not handled correctly
sentence = "this and that, or another thing.";
Console.WriteLine(ti.ToTitleCase(sentence));
Console.WriteLine();
```

Try It Out

Run the application to see the results of the string conversion.

Lab 5: Fix ToTitleCase() To Convert 'And' and 'Or' Correctly

Right mouse-click on the console application project and add a new class named **StringHelper**. Replace the contents of the file with the following code.

```
using System.Globalization;

namespace ChangeCase;

public static class StringHelper
{
  static StringHelper()
  {
    BuildLowerCaseWords();
  }

  public static List<string> LowerCaseWords { get; set;
} = new();

  // Capitalize "major" words (nouns, pronouns, verbs,
adjectives, adverbs)
  // Lowercase conjunctions: 'and', 'but', 'for', 'or',
and 'nor'
  // Lowercase articles: 'the', 'a', and 'an'
  // Lowercase words: 'to' and 'as'
  public static void BuildLowerCaseWords()
  {
    LowerCaseWords.Add("And");
    LowerCaseWords.Add("But");
    LowerCaseWords.Add("For");
    LowerCaseWords.Add("Or");
    LowerCaseWords.Add("Nor");
    LowerCaseWords.Add("The");
    LowerCaseWords.Add("A");
    LowerCaseWords.Add("An");
    LowerCaseWords.Add("To");
    LowerCaseWords.Add("As");
  }

  public static string ToTitleCase(string str)
  {
    TextInfo ti = CultureInfo.CurrentCulture.TextInfo;

    str = ti.ToTitleCase(str);

    // Check for keywords to be lower case
    foreach (string word in LowerCaseWords) {
      str = str.Replace($" {word} ", $"
{word.ToLowerInvariant()} ");
    }

    return str;
```

```
      }
}
```

Replace the code in the **Program.cs** file with the following.

```
using System.Globalization;
using TitleCase;

string sentence;
TextInfo ti = CultureInfo.CurrentCulture.TextInfo;

sentence = "this and that, but not a thing, nor another
thing or that thing.";

Console.WriteLine(ti.ToTitleCase(sentence));
Console.WriteLine();

Console.WriteLine(StringHelper.ToTitleCase(sentence));
Console.WriteLine();
```

Try It Out

Run the application to see the results of the string conversion.