Change Case Using ToLower() and ToUpper() 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 ToUpper() and ToUpperInvariant() Methods

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

Modify the **Program.cs** file to look like the following.

```
string sentence;

// ***********************************
// ToUpper() Samples
// ***********************************
sentence = "all lower case sentence.";
Console.WriteLine(sentence.ToUpper());

// Use *Invariant when you must take into account
different cultures
Console.WriteLine(sentence.ToUpperInvariant());
Console.WriteLine();
```

Try It Out

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

Lab 2: Using the ToLower() and ToLowerInvariant() Methods

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

```
// ***********************************
// ToLower() Samples
// ***********************************
sentence = "ALL UPPER CASE SENTENCE.";
Console.WriteLine(sentence.ToLower());

// Use *Invariant when you must take into account
different cultures
Console.WriteLine(sentence.ToLowerInvariant());
Console.WriteLine();
```

Try It Out

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

Lab 3: Is All Upper Case

At the top of the **Program.cs** file, add the following code after the code from the previous lab.

```
// ***********************************
// Is All Upper Case Samples
// ***********************************
sentence = "ALL Upper Case Sentence.";
Console.Write("Is sentence all upper case = ");
Console.WriteLine(String.Equals(sentence,
sentence.ToUpperInvariant()));

sentence = "ALL UPPER CASE SENTENCE.";
Console.Write("Is sentence all upper case = ");
Console.WriteLine(String.Equals(sentence,
sentence.ToUpperInvariant()));
Console.WriteLine();
```

Try It Out

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

Lab 4: Is All Lower Case

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

```
// **********************************
// Is All Lower Case Samples
// **********************************
sentence = "ALL Lower Case Sentence.";
Console.Write("Is sentence all lower case = ");
Console.WriteLine(String.Equals(sentence,
sentence.ToLowerInvariant()));

sentence = "all lower case sentence.";
Console.Write("Is sentence all lower case = ");
Console.WriteLine(String.Equals(sentence,
sentence.ToLowerInvariant()));
Console.WriteLine();
```

Try It Out

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

Lab 5: Regular Expressions

```
// **********************************
// Regular Expression Samples
// **********************************
Console.Write("Is sentence all lower case (Regex) = ");
sentence = "all lower case sentence.";
Regex reg = new(@"^[a-z0-9_\-]");
Console.WriteLine(reg.IsMatch(sentence));

Console.Write("Is sentence all upper case (Regex) = ");
sentence = "ALL UPPER CASE SENTENCE.";
reg = new(@"^[A-Z0-9_\-]");
Console.WriteLine(reg.IsMatch(sentence));
Console.WriteLine();
```