

## LinksPlatform's Platform.RegularExpressions.Transformer Class Library

### ./Platform.RegularExpressions.Transformer/Context.cs

```
1  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
2
3  namespace Platform.RegularExpressions.Transformer
4  {
5      public class Context : IContext
6      {
7          public string Path { get; }
8
9          public Context(string path) => Path = path;
10     }
11 }
```

### ./Platform.RegularExpressions.Transformer/IContext.cs

```
1  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
2
3  namespace Platform.RegularExpressions.Transformer
4  {
5      public interface IContext
6      {
7          public string Path { get; }
8      }
9  }
```

### ./Platform.RegularExpressions.Transformer/ISubstitutionRule.cs

```
1  using System.Text.RegularExpressions;
2
3  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
4
5  namespace Platform.RegularExpressions.Transformer
6  {
7      public interface ISubstitutionRule
8      {
9          Regex MatchPattern { get; }
10         string SubstitutionPattern { get; }
11         Regex PathPattern { get; }
12         int MaximumRepeatCount { get; }
13     }
14 }
```

### ./Platform.RegularExpressions.Transformer/ITransformer.cs

```
1  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
2
3  namespace Platform.RegularExpressions.Transformer
4  {
5      public interface ITransformer
6      {
7          string Transform(string source, IContext context);
8      }
9  }
```

### ./Platform.RegularExpressions.Transformer/RegexExtensions.cs

```
1  using System;
2  using System.Text.RegularExpressions;
3
4  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
5
6  namespace Platform.RegularExpressions.Transformer
7  {
8      public static class RegexExtensions
9      {
10         public static Regex OverrideOptions(this Regex regex, RegexOptions options, TimeSpan
            ↳ matchTimeout)
11         {
12             if (regex == null)
13             {
14                 return null;
15             }
16             return new Regex(regex.ToString(), options, matchTimeout);
17         }
18     }
19 }
```

## ./Platform.RegularExpressions.Transformer/SubstitutionRule.cs

```
1  using System;
2  using System.Text.RegularExpressions;
3
4  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
5
6  namespace Platform.RegularExpressions.Transformer
7  {
8      public class SubstitutionRule : ISubstitutionRule
9      {
10         public static readonly TimeSpan DefaultMatchTimeout = TimeSpan.FromMinutes(5);
11         public static readonly RegexOptions DefaultMatchPatternRegexOptions =
12             ↳ RegexOptions.Compiled | RegexOptions.Multiline;
13         public static readonly RegexOptions DefaultPathPatternRegexOptions =
14             ↳ RegexOptions.Compiled | RegexOptions.Singleline;
15
16         public Regex MatchPattern { get; set; }
17
18         public string SubstitutionPattern { get; set; }
19
20         public Regex PathPattern { get; set; }
21
22         public int MaximumRepeatCount { get; set; }
23
24         public SubstitutionRule(Regex matchPattern, string substitutionPattern, Regex
25             ↳ pathPattern, int maximumRepeatCount, RegexOptions? matchPatternOptions,
26             ↳ RegexOptions? pathPatternOptions, TimeSpan? matchTimeout)
27         {
28             MatchPattern = matchPattern;
29             SubstitutionPattern = substitutionPattern;
30             PathPattern = pathPattern;
31             MaximumRepeatCount = maximumRepeatCount;
32             OverrideMatchPatternOptions(matchPatternOptions ?? matchPattern.Options,
33             ↳ matchTimeout ?? matchPattern.MatchTimeout);
34             OverridePathPatternOptions(pathPatternOptions ?? pathPattern.Options, matchTimeout
35             ↳ ?? pathPattern.MatchTimeout);
36         }
37
38         public SubstitutionRule(Regex matchPattern, string substitutionPattern, Regex
39             ↳ pathPattern, int maximumRepeatCount, bool useDefaultOptions) : this(matchPattern,
40             ↳ substitutionPattern, pathPattern, maximumRepeatCount, useDefaultOptions ?
41             ↳ DefaultMatchPatternRegexOptions : (RegexOptions?)null, useDefaultOptions ?
42             ↳ DefaultPathPatternRegexOptions : (RegexOptions?)null, useDefaultOptions ?
43             ↳ DefaultMatchTimeout : (TimeSpan?)null) { }
44
45         public SubstitutionRule(Regex matchPattern, string substitutionPattern, Regex
46             ↳ pathPattern, int maximumRepeatCount) : this(matchPattern, substitutionPattern,
47             ↳ pathPattern, maximumRepeatCount, true) { }
48
49         public SubstitutionRule(Regex matchPattern, string substitutionPattern, int
50             ↳ maximumRepeatCount) : this(matchPattern, substitutionPattern, null,
51             ↳ maximumRepeatCount) { }
52
53         public SubstitutionRule(Regex matchPattern, string substitutionPattern) :
54             ↳ this(matchPattern, substitutionPattern, null, 0) { }
55
56         public static implicit operator SubstitutionRule(ValueTuple<Regex, string> tuple) => new
57             ↳ SubstitutionRule(tuple.Item1, tuple.Item2);
58
59         public static implicit operator SubstitutionRule(ValueTuple<Regex, string, int> tuple)
60             ↳ => new SubstitutionRule(tuple.Item1, tuple.Item2, tuple.Item3);
61
62         public static implicit operator SubstitutionRule(ValueTuple<Regex, string, Regex, int>
63             ↳ tuple) => new SubstitutionRule(tuple.Item1, tuple.Item2, tuple.Item3, tuple.Item4);
64
65         public void OverrideMatchPatternOptions(RegexOptions options, TimeSpan matchTimeout) =>
66             ↳ MatchPattern = MatchPattern.OverrideOptions(options, matchTimeout);
67
68         public void OverridePathPatternOptions(RegexOptions options, TimeSpan matchTimeout) =>
69             ↳ PathPattern = PathPattern.OverrideOptions(options, matchTimeout);
70     }
71 }
```

## ./Platform.RegularExpressions.Transformer/TransformerCLI.cs

```
1  using System.Diagnostics;
2  using System.IO;
3  using System.Text;
4
5  #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
```

```

6
7 namespace Platform.RegularExpressions.Transformer
8 {
9     public class TransformerCLI
10    {
11        private readonly ITransformer _transformer;
12
13        public TransformerCLI(ITransformer transformer) => _transformer = transformer;
14
15        public bool Run(string[] args, out string message)
16        {
17            message = "";
18            var sourcePath = GetArgOrDefault(args, 0);
19            if (!File.Exists(sourcePath))
20            {
21                message = $"{sourcePath} file does not exist.";
22                return false;
23            }
24            var targetPath = GetArgOrDefault(args, 1);
25            if (string.IsNullOrEmpty(targetPath))
26            {
27                targetPath = ChangeToTargetExtension(sourcePath);
28            }
29            else if (Directory.Exists(targetPath) &&
30                 ↪ File.GetAttributes(targetPath).HasFlag(FileAttributes.Directory))
31            {
32                targetPath = Path.Combine(targetPath, GetTargetFileName(sourcePath));
33            }
34            else if (LooksLikeDirectoryPath(targetPath))
35            {
36                Directory.CreateDirectory(targetPath);
37                targetPath = Path.Combine(targetPath, GetTargetFileName(sourcePath));
38            }
39            if (File.Exists(targetPath))
40            {
41                var applicationPath = Process.GetCurrentProcess().MainModule.FileName;
42                var targetFileLastUpdateDateTime = new FileInfo(targetPath).LastWriteTimeUtc;
43                if (new FileInfo(sourcePath).LastWriteTimeUtc < targetFileLastUpdateDateTime &&
44                    ↪ new FileInfo(applicationPath).LastWriteTimeUtc <
45                    ↪ targetFileLastUpdateDateTime)
46                {
47                    return true;
48                }
49            }
50            File.WriteAllText(targetPath, _transformer.Transform(File.ReadAllText(sourcePath,
51                ↪ Encoding.UTF8), new Context(sourcePath)), Encoding.UTF8);
52            message = $"{targetPath} file written.";
53            return true;
54        }
55
56        private static string GetTargetFileName(string sourcePath) =>
57            ↪ ChangeToTargetExtension(Path.GetFileName(sourcePath));
58
59        private static string ChangeToTargetExtension(string path) => Path.ChangeExtension(path,
60            ↪ ".cpp");
61
62        private static bool LooksLikeDirectoryPath(string targetPath) =>
63            ↪ targetPath.EndsWith(Path.DirectorySeparatorChar) ||
64            ↪ targetPath.EndsWith(Path.AltDirectorySeparatorChar);
65
66        private static string GetArgOrDefault(string[] args, int index) => args.Length > index ?
67            ↪ args[index] : null;
68    }
69 }

```

./Platform.RegularExpressions.Transformer/Transformer.cs

```

1 using System.Collections.Generic;
2
3 #pragma warning disable CS1591 // Missing XML comment for publicly visible type or member
4
5 namespace Platform.RegularExpressions.Transformer
6 {
7     public class Transformer : ITransformer
8     {
9         private readonly IList<ISubstitutionRule> _substitutionRules;
10
11         public Transformer(IList<ISubstitutionRule> substitutionRules) => _substitutionRules =
12             ↪ substitutionRules;

```

```

13 public string Transform(string source, IContext context)
14 {
15     var current = source;
16     for (var i = 0; i < _substitutionRules.Count; i++)
17     {
18         var rule = _substitutionRules[i];
19         var matchPattern = rule.MatchPattern;
20         var substitutionPattern = rule.SubstitutionPattern;
21         var pathPattern = rule.PathPattern;
22         var maximumRepeatCount = rule.MaximumRepeatCount;
23         if (pathPattern == null || pathPattern.IsMatch(context.Path))
24         {
25             var replaceCount = 0;
26             do
27             {
28                 current = matchPattern.Replace(current, substitutionPattern);
29                 if (++replaceCount > maximumRepeatCount)
30                 {
31                     break;
32                 }
33             } while (matchPattern.IsMatch(current));
34         }
35     }
36     return current;
37 }
38 }
39 }
40 }

```

./Platform.RegularExpressions.Transformer.Tests/SubstitutionRuleTests.cs

```

1 using System.Text.RegularExpressions;
2 using Xunit;
3
4 namespace Platform.RegularExpressions.Transformer.Tests
5 {
6     public class SubstitutionRuleTests
7     {
8         [Fact]
9         public void OptionsOverrideTest()
10         {
11             SubstitutionRule rule = (new Regex(@"^s*?\#pragma[\sa-zA-Z0-9\./]+$"), "", null, 0);
12             Assert.Equal(RegexOptions.Compiled | RegexOptions.Multiline,
13                 ↪ rule.MatchPattern.Options);
14         }
15     }
16 }

```

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