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SECTION: BCS 7A

SUBJECT: Compiler Construction

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CC MID LAB

Question 1

Describe functioning of regex C# library , give examples of patterns,seperators and anchors e.t.c.

The .NET framework in C# provides robust support for regular expressions through the System.Text.RegularExpressions namespace. Regular expressions, often referred to as regex, allow you to search, match, and manipulate text using patterns. Here's an overview of the functionality provided by the .NET Regex library, along with examples of common regex patterns, separators, anchors, and more.

1) Separators:

In regex, separators are characters or patterns used to split or tokenize text. You can use separators to break a string into smaller parts, often used for processing structured data.

Example 1: Comma Separated Values (CSV):

- Separator: ,
- Input: "apple,banana,cherry"

- Result: ["apple", "banana", "cherry"]

Example 2: Space Separated Words:

- Separator: \s+ (one or more whitespace characters)
- Input: "Hello World Today"
- Result: ["Hello", "World", "Today"]

Example 3: Pipe-Delimited Data:

- Separator: \|
- Input: "Alice|Bob|Carol"
- Result: ["Alice", "Bob", "Carol"]

2) Patterns:

Regex patterns define rules for matching text. They are used to find or extract specific substrings in a text based on a set of criteria.

Example 1: Matching Email Addresses:

- Pattern: [a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}
- Input: "john.doe@example.com"
- Result: john.doe@example.com

Example 2: Matching Dates in MM/DD/YYYY Format:

- Pattern: ^(0[1-9]|1[0-2])/(0[1-9]|12|[0-9]|3[01])/\d{4}\$
- Input: "02/15/2023"
- Result: "02/15/2023"

Example 3: Matching HTML Tags:

- Pattern: <[>]+>
- Input: <p>This is a sample text.</p>
- Result: ["<p>", "", "", "</p>"]

3) Anchors:

Anchors are used to specify the position of the pattern within the text. Common anchors include ^ and \$.

Example 1: Matching the Start of a Line

- string pattern = "^Start";
- This pattern matches "Start" only if it appears at the start of a line.

Example 2: Matching the End of a Line

- string pattern = "End\$";

- This pattern matches "End" only if it appears at the end of a line.

Example 3: Matching Whole Words

- string pattern = @"\\bWord\\b";
- The \\b anchors match "Word" as a whole word, not as part of a larger word.

Question 2:

LL1 Parsing

-□×

Qno:2 >>LL1 parsing

Input Text

id

Parse

output text

Valid List!

Next Form

LL1 Parsing

Qno:2 >>LL1 parsing

Input Text

id, , string

Parse

output text

Invalid List!

Next Form

Question 3:

Passowrd generator

Qno#3 Password generator

NAME:

Mehrban

[Click here to genrate password](#)

LAST NAME:

Ali

Generate Password

REG NO:

fa20-bcs-065

Generated Password

MA88?

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