**Practical No. 12: Develop a webpage for validation of form fields using regular expression**

1. **Practical Significance:** A regular expression is an object that describes a pattern of characters. The JavaScript RegExp class represents regular expressions, and both String and RegExp define methods that use regular expressions to perform powerful pattern-matching and search-and-replace functions on text.

### Relevant Program Outcomes (POs):

* Basic knowledge: Apply knowledge of basic mathematics, sciences and basic engineering to solve the computer group related problems.
* Discipline knowledge: Apply Computer Programming knowledge to solve the computer group related problems.
* Experiments and practice: Plan to perform experiments and practices to use the results to solve the computer group related problems.
* Engineering tools: Apply relevant Computer programming / technologies and tools with an understanding of the limitations.
* Individual and Team work: Function effectively as a leader and team member in diverse/multidisciplinary teams.
* Communication: Communicate effectively in oral and written form.

1. **Competency and Practical skills:**
2. Create validation for fields using regular expression.

### Relevant Course Outcome(s):

Create interactive web page using regular expressions for validation

### Practical Outcome (PrOs):

Develop a webpage for validation of form fields using regular expression

### Relevant Affective domain related Outcome(s):

* 1. Follow safety practices.
  2. Practice good housekeeping
  3. Demonstrate working as a leader/ a team member.
  4. Follow ethical practices.

1. **Minimum Theoretical Background:**

**Regular Expression syntax**

/pattern/modifiers;

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| --- | --- |
| **Regular expression Modifiers** | |
| Modifier | Description |
| I | Perform case-insensitive matching |
| g | Perform a global match (find all matches rather than stopping after the first match) |
| m | Perform multiline matching |
| Regular Expression Patterns | |
| [abc] | Find any of the characters between the brackets |
| [0-9] | Find any of the digits between the brackets |
| (x|y) | Find any of the alternatives separated with | |
| **Metacharacters** are characters with a special meaning | |
| \d | Find a digit |
| \s | Find a whitespace character |
| \b | Find a match at the beginning of a word like this: \bWORD, or at the end of a word like this: WORD\b |
| \uxxxx | Find the Unicode character specified by the hexadecimal number xxxx |
| **Quantifiers** define quantities: | |
| n+ | Matches any string that contains at least one *n* |
| n\* | Matches any string that contains zero or more occurrences of *n* |
| n? | Matches any string that contains zero or one occurrences of *n* |

**Regular Expression Methods:**

1. test()

2. replace()

3. exec()

1. **Resources required**

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| --- | --- | --- | --- | --- |
| Sr. No. | Name of Resource | Broad specification | Quantity | Remark (If any) |
| 1 | Computer System | Computer (i3-i5 preferable), RAM minimum 2 GB and onwards | As per batch size | For all Experiments |
| 2 | Operating System | Windows / Linux |
| 3 | Development Software | Browser and Notepad/any Text Editor  Free Webpage Designing Tool  Any IDE |

1. **Resources used**

| S. No. | Name of Resource | Broad Specification | Qty | Remarks (If any) |
| --- | --- | --- | --- | --- |
|  | Computer System  with broad specifications | Intel Core –i5  RAM – 8 GB | 1 PC / Student |  |
|  | Operating System | Windows 10 |  |
|  | Development Software | Micromedia Dreamviewer 8 |  |

Print out of Program along with title

1. **Result**

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1. **Conclusion**

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| Marks Obtained | | | Dated Signature of Teacher |
| Process Related ( ) | Product Related ( ) | Total ( ) |  |
|  |  |  |