

RegEx

REGULAR EXPRESSION

What is RegEx

A regular expression is a sequence of characters that forms a search pattern.



Quantifiers

Quantifier	Description
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
$n\{x\}$	Matches any string that contains a sequence of X n 's
$n\{x,y\}$	Matches any string that contains a sequence of X to Y n 's
$n\{x,\}$	Matches any string that contains a sequence of at least X n 's

Character Classes

Expression	Description
[abc]	Find one character from the options between the brackets
[^abc]	Find one character NOT between the brackets
[0-9]	Find one character from the range 0 to 9

Metacharacters

Metacharacter	Description
	Find a match for any one of the patterns separated by as in: cat dog fish
.	Find just one instance of any character
^	Finds a match as the beginning of a string as in: ^Hello
\$	Finds a match at the end of the string as in: World\$
\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
\w	\w matches any word character (equivalent to [a-zA-Z0-9_])

RegEx in java

Java does not have a built-in Regular Expression class, but we can import the `java.util.regex` package to work with regular expressions.

The package includes the following classes:

- `Pattern` Class - Defines a pattern (to be used in a search)
- `Matcher` Class - Used to search for the pattern
- `PatternSyntaxException` Class - Indicates syntax error in a regular expression pattern

different kinds of match operations

Method Name	Description
<code>public boolean lookingAt()</code>	This method aims to match the input sequence, starting at the beginning of the region, against the pattern.
<code>public boolean find()</code>	This method aims to find the next subsequence of the input sequence that matches the pattern.
<code>public boolean find(int start)</code>	Resets this matcher and then tries to find the next subsequence of the input sequence which matches the pattern, starting at the specified index.
<code>public boolean matches()</code>	This method aims to match the entire region against the pattern.

Index Methods

Method Name	Description
<code>public int start()</code>	This method returns the start index of the previous match.
<code>public int start(int group)</code>	This method returns the start index of the subsequence captured by the given group during the previous match operation.
<code>public int end()</code>	This method returns the offset after the last character is matched.
<code>public int end(int group)</code>	This method returns the offset after the last character of the subsequence captured by the given group during the previous match operation.

Practical sites

regex101.com

regexone.com

regexr.com