**10.2 Regex:**

# **Kotlin Regex**

Regex is generally refers to *regular expression* which is used to search string or replace on regex object.

To use it functionality we need to use Regex(*pattern: String*) class.

Kotlin's **Regex** class is found in kotlin.text.regex package.

## **Kotlin Regex Constructor**

## Regex(pattern: String)

## It creates a regular expression from the given string pattern.

## Regex(pattern: String, option: *RegexOption*)

## It creates a regular expression from the given string pattern and given single option.

## Regex(pattern: String, options: **Set**<*RegexOption*>)

## It creates a regular expression from the given string pattern and set of given options.

<https://www.javatpoint.com/kotlin-regular-expressions-introduction>

# **Kotlin Regex Pattern**

Regex uses several symbolic notation (patterns) in its function. Some commonly uses patterns are given below:

<https://www.javatpoint.com/kotlin-regex-pattern>

|  |  |
| --- | --- |
| **Symbol** | **Description** |
| x|y | Matches either x or y |
| xy | Matches x followed by y |
| [xyz] | Matches either x,y,z |
| [x-z] | Matches any character from x to z |
| [^x-z] | '^' as first character negates the pattern. This matches anything outside the range x-z |
| ^xyz | Matches expression xyz at beginning of line |
| xyz$ | Matches expression xyz at end of line |
| . | Matches any single character |

## **Regex Meta Symbols**

|  |  |
| --- | --- |
| **Symbol** | **Description** |
| \d | Matches digits ([0-9]) |
| \D | Matches non-digits |
| \w | Matches word characters |
| \W | Matches non-word characters |
| \s | Matches whitespaces [\t\r\f\n] |
| \S | Matches non-whitespaces |
| \b | Matches word boundary when outside of a bracket. Matches backslash when placed in a bracket |
| \B | Matches non-word boundary |
| \A | Matches beginning of string |
| \Z | Matches end of String |

## **Regex Quantifiers Patterns**

|  |  |
| --- | --- |
| Symbol | Description |
| abcd? | Matches 0 or 1 occurrence of expression abcd |
| abcd\* | Matches 0 or more occurrences of expression abcd |
| abcd+ | Matches 1 or more occurrences of expression abcd |
| abcd{x} | Matches exact x occurrences of expression abcd |
| abcd{x,} | Matches x or more occurrences of expression abcd |
| abcd{x,y} | Matches x to y occurrences of expression abcd |

## **Regex Sample Patterns**

|  |  |
| --- | --- |
| **Pattern** | **Description** |
| ([^\s]+(?=\.(jpg|gif|png))\.\2) | Matches jpg,gif or png images. |
| ([A-Za-z0-9-]+) | Matches latter, number and hyphens. |
| (^[1-9]{1}$|^[1-4]{1}[0-9]{1}$|^100$) | Matches any number from 1 to 100 inclusive. |
| (#?([A-Fa-f0-9]){3}(([A-Fa-f0-9]){3})?) | Matches valid hexa decimal color code. |
| ((?=.\*\d)(?=.\*[a-z])(?=.\*[A-Z]).{8,15}) | Matches 8 to 15 character string with at least one upper case, one lower case and one digit. |
| (\w+@[a-zA-Z\_]+?\.[a-zA-Z]{2,6}) | Matches email address. |
| (\<(/?[^\>]+)\>) | Matches HTML tags. |