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.