Regular Expression

| **Characters / constructs** | **Corresponding article** |
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| [xyz], [^xyz], ., \d, \D, \w, \W, \s, \S, \t, \r, \n, \v, \f, [\b], \0, \c*X*, \x*hh*, \u*hhhh*, \u*{hhhh}*, *x*|*y* | Character classes |
| ^, $, \b, \B, x(?=y), x(?!y), (?<=y)x, (?<!y)x | Assertions |
| (*x*), (?<Name>x), (?:*x*), \*n*, \k<Name> | Groups and backreferences |
| *x*\*, *x*+, *x*?, *x*{*n*}, *x*{*n*,}, *x*{*n*,*m*} | Quantifiers |
| \p{*UnicodeProperty*}, \P{*UnicodeProperty*} | Unicode property escapes |

/^\w+([\.-]?\w+)\*@\w+([\.-]?\w+)\*(\.\w{2,3})+$/;

1. The two forward-slashes /.../ contains a regex.
2. The leading **^** and trailing **$** match the beginning and the ending of the input string, respectively. That is, the entire input string shall match with this regex, instead of a part of the input string.
3. \w+ matches 1 or more-word characters (a-z, A-Z, 0-9 and underscore).
4. [. -] matches character . or -. We need to use. to represent . as . has special meaning in regex. The \ is known as the escape code, which restore the original literal meaning of the following character.
5. [.-]? matches 0 or 1 occurrence of [.-].
6. Again, \w+ matches 1 or more word characters.
7. ([.-]?\w+)\* matches 0 or more occurrences of [.-]?\w+.
8. The sub-expression \w+([.-]?\w+)\* is used to match the username in the email, before the @ sign. It begins with at least one word character (a-z, A-Z, 0-9 and underscore), followed by more word characters or . or -. However, a . or - must follow by a word character (a-z, A-Z, 0-9 and underscore). That is, the string cannot contain "..", "--", ".-" or "-.". Example of valid string are "a.1-2-3".
9. The @ matches itself.
10. Again, the sub-expression \w+([.-]?\w+)\* is used to match the email domain name, with the same pattern as the username described above.
11. The sub-expression .\w{2,3} matches a . followed by two or three word characters, e.g., ".com", ".edu", ".us", ".uk", ".co".
12. (.\w{2,3})+ specifies that the above sub-expression shall occur one or more times, e.g., ".com", ".co.uk", ".edu.sg" etc.