

|                 |   |   |
|-----------------|---|---|
| <b>^</b>        | If first in the regex, denotes the start or as a negation | <b>^Hello</b> → string must start with word “Hello”<br><b>[^a]</b> → string cannot have the character “a” |
| <b>\$</b>       | Denotes the end of a string                               | <b>Hello\$</b> → string must end with word “Hello”  |
| <b>*</b>        | Zero or more occurrences                                  | <b>ba*b</b> → string has two b’s with zero or more a’s between them                                       |
| <b>+</b>        | One or more occurrences                                   | <b>b(ac)+b</b> → string has two b’s with one “ac” or multiple “ac” strings between them                   |
| <b>?</b>        | Zero or one occurrence                                    | <b>bc?b</b> → string has two b’s with nothing between them or a single c                                  |
| <b>{ }</b>      | Matches a string in the range specified                   | <b>abc{2, 5}</b> → string starts with ab and follows with two to five c’s                                 |
| <b>() and  </b> | Used to provide section of choices                        | <b>b(a i e)t</b> → string is either bat, bit, or bet  |
| <b>[]</b>       | Same as above   | <b>b[aie)t</b> → string is either bat, bit, or bet  |

|          |   |  |
|----------|---|--|
| .        | Any character, can be a alphanumeric or a symbol                      | <b>b.c</b> → string can bac, b5c, b@c, etc.  |
| [0-9]    | Digit from 0 t 9  | <b>[0-9] [0-9]</b> → string from 00 to 99  |
| [a-z]    | Lowercase letter, switch to capital A and Z for all uppercase letters | <b>[a-z]+</b> → string with a lowercase characters repeated one or more times                          |
| [a-zA-Z] | A letter, lowercase or uppercase                                      | <b>[a-zA-Z]{2}</b> → a two character string with any letter (wE, BP, ee...)                            |
| \w       | A word character: letter, number, or an underscore                    | <b>\w@gmail.com</b> → hello@gmail.com, 123@gmail.com, b_tr@gmai.com                                    |
| \d       | A digit   | <b>\d*</b> → string with zero or more digits (4, 48, 489..)  |
| \s       | Whitespace character that includes tabs and line breaks               | <b>hello\sworld</b> → string has a whitespace character like a tab or line break between the two words |

Additional resources [here](#) and [here](#).