

## Regex

### Boolean

|

A vertical bar separates alternatives. For example, `gray|grey` can match "gray" or "grey".

### Grouping

( )

Parentheses are used to define the scope and precedence of the [operators](#) (among other uses). For example, `gray|grey` and `gr(a|e)y` are equivalent patterns which both describe the set of "gray" or "grey".

### Quantifiers

?

The question mark indicates *zero or one* occurrences of the preceding element. For example, `colou?r` matches both "color" and "colour".

\*

The asterisk indicates *zero or more* occurrences of the preceding element. For example, `ab*c` matches "ac", "abc", "abbc", "abbbc", and so on.

+

The plus sign indicates *one or more* occurrences of the preceding element. For example, `ab+c` matches "abc", "abbc", "abbbc", and so on, but not "ac".

{n}

The preceding item is matched exactly *n* times.

{min, }

The preceding item is matched *min* or more times.

{ ,max}

The preceding item is matched up to *max* times.

{min, max}

The preceding item is matched at least *min* times, but not more than *max* times.

### Wildcard

.

The wildcard `.` matches any character.

Metacharacter	Description
<code>^</code>	Matches the starting position within the string. In line-based tools, it matches the starting position of any line.
<code>.</code>	Matches any single character (many applications exclude <a href="#">newlines</a> , and exactly which characters are considered newlines is flavor-, character-encoding-, and platform-specific, but it is safe to assume that the line feed character is included). Within POSIX bracket expressions, the dot character matches a literal dot. For example, <code>a.c</code> matches "abc", etc., but <code>[a.c]</code> matches only "a", ".", or "c".
<code>[ ]</code>	<p>A bracket expression. Matches a single character that is contained within the brackets. For example, <code>[abc]</code> matches "a", "b", or "c". <code>[a-z]</code> specifies a range which matches any lowercase letter from "a" to "z". These forms can be mixed: <code>[abcx-z]</code> matches "a", "b", "c", "x", "y", or "z", as does <code>[a-cx-z]</code>.</p> <p>The <code>-</code> character is treated as a literal character if it is the last or the first (after the <code>^</code>, if present) character within the brackets: <code>[abc-]</code>, <code>[-abc]</code>. Note that backslash escapes are not allowed. The <code>]</code> character can be included in a bracket expression if it is the first (after the <code>^</code>) character: <code>[ ]abc]</code>.</p>
<code>[^ ]</code>	Matches a single character that is not contained within the brackets. For example, <code>[^abc]</code> matches any character other than "a", "b", or "c". <code>[^a-z]</code> matches any single character that is not a lowercase letter from "a" to "z". Likewise, literal characters and ranges can be mixed.
<code>\$</code>	Matches the ending position of the string or the position just before a string-ending newline. In line-based tools, it matches the ending position of any line.
<code>( )</code>	Defines a marked subexpression. The string matched within the parentheses can be recalled later (see the next entry, <code>\n</code> ). A marked subexpression is also called a block or capturing group. <b>BRE mode requires <code>\( \)</code></b> .
<code>\n</code>	Matches what the <i>n</i> th marked subexpression matched, where <i>n</i> is a digit from 1 to 9. This construct is vaguely defined in the POSIX.2 standard. Some tools allow referencing more than nine capturing groups. Also known as a backreference. <b>backreferences are only supported in BRE mode</b>
<code>*</code>	Matches the preceding element zero or more times. For example, <code>ab*c</code> matches "ac", "abc", "abbbc", etc. <code>[xyz]*</code> matches "", "x", "y", "z", "zx", "zyx", "xyzy", and so on. <code>(ab)*</code> matches "", "ab", "abab", "ababab", and so on.
<code>{m,n}</code>	Matches the preceding element at least <i>m</i> and not more than <i>n</i> times. For example, <code>a{3,5}</code> matches only "aaa", "aaaa", and "aaaaa". This is not found in a few older instances of regexes. <b>BRE mode requires <code>\{m,n\}</code></b> .

Resources:

[Wikipedia](#)

[W3School](#) Regex PHP

[W3School](#) Regex JS

[W3School](#) Regex Python

[MDN](#) Regex JS

Online tools:

Regexr.com

Regex101.com