

Regular expressions

| | |
|------------------|--|
| . | any one character |
| gr.y | <u>gray</u> , <u>grey</u> , tray, <u>grby</u> , <u>gr1y</u> , <u>gr_y</u> , <u>gr!y</u> , greay |
| () | Match any of the literal strings between the brackets |
| (Sun Mon Tue)day | <u>Monday</u> , <u>Tuesday</u> , Wednesday, <u>Sunday</u> , sunday |
| [] | any character between brackets |
| gr[ea]y | <u>grey</u> , <u>gray</u> , groy, gruy, griy |
| [-] | includes ranges: e.g. [b-f] [5-8] [a-z] [A-Za-z] [0-9] |
| H[2-4]0 | H0, H10, <u>H20</u> , <u>H30</u> , <u>H40</u> , H50 |
| [^] | any character <i>except</i> those listed |
| c[^u]t | cut, <u>cat</u> , <u>cbt</u> , <u>cct</u> , <u>cdt</u> , <u>cet</u> , <u>c t</u> , <u>c-t</u> , <u>cát</u> , <u>c?t</u> , caat |

Regex: Quantifiers

| | |
|------------------|---|
| {num} | match previous element (<i>num</i>) times |
| b[ao]{2}t | boaat, <u>boot</u> , <u>baat</u> , <u>boat</u> , <u>baot</u> , bot, bat |
| {min,max} | match previous element between (<i>min</i>) and (<i>max</i>) times |
| [A-Z]o{,4}h | <u>Boooh</u> ! Boooooooh! |
| * | match previous element zero or more times |
| la* | Oh <u>la la la</u> . Oh <u>la la laaa</u> ! C'est magnifique! <u>All</u> at once! |
| ? | match previous element zero or one time |
| beholde? | <u>behold</u> , <u>beholde</u> |

Regex: Replacements

(...)

replacement group
(in search expression)

\\1

replacement group 1
(in replace expression)

(t?here) it is **(cold|warm)**

And he remarked: there it is cold.
She added: here it is warm.

it was **\\2** out **\\1**.

And he remarked: it was cold out there.
She added: it was warm out there.

Regex: Greedy – lazy

| <code>.*</code> | 'stuff' |
|------------------------|--|
| <code>anti.*ism</code> | The <u>anti-disestablishmentarianism</u> really got her down... |
| <code>*</code> | greedy |
| <code>str.*re</code> | A <u>structure is a re</u> ality which is immaterial, but manifests itself materially. |
| <code>*?</code> | lazy |
| <code>str.*?re</code> | A <u>structure</u> is a reality which is immaterial, but manifests itself materially. |

`.*` (greedy stuff) | `*?` (lazy stuff)

Regex: Other options

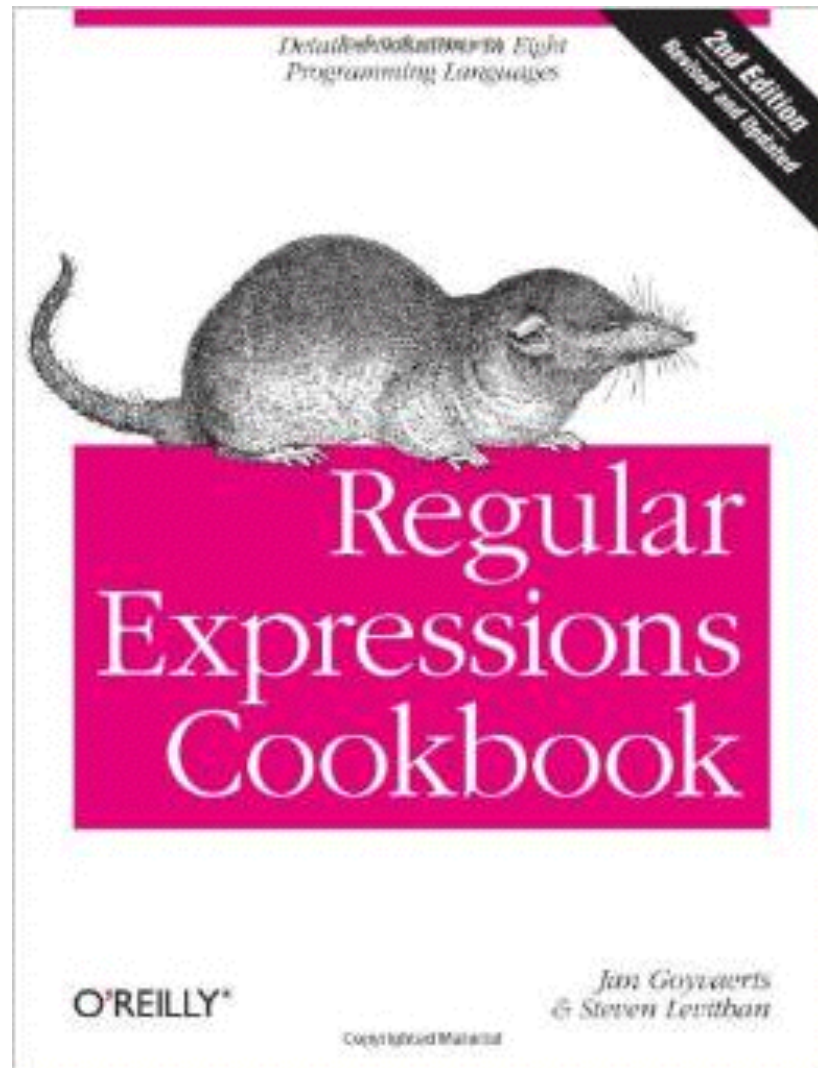
| | |
|----------------------|--|
| (?s) | makes following regex ignore line breaks |
| (?s)he (is was) here | yesterday morning, <u>he was</u> <u>here</u> for a minute or two |
| \ | escape special characters: \. \ \? * |
| math.*?\. | A horse that can count to ten is a remarkable horse, not a remarkable <u>mathematician.</u> |
| \\n \\t | new line \n - tab \t |
| \\w \\d | any word character - any digit |

Regex: Anchors and boundaries

| | |
|-------------------|---|
| ^ | Matches at start of line or element |
| ^John | <u>John</u> S. is coming, but John. D. isn't. |
| \$ | Matches at end of line or element |
| enough\$ | Enough is <u>enough</u> |
| \\w - \\W | any word / non-word character (consuming) |
| \\WJohn\\W | This is <u>John</u> Johnson. |
| \\b | word boundary (non-consuming!) (>< \\B) |
| \\bJohn\\b | This is <u>John</u> Johnson. |

See also: lookahead (non-consuming)

Further reference



Regular Expression Quick Reference v1.00

Online RegEx Resources: www.gmckinney.info

| Literal Characters | |
|--------------------|--|
| <code>\f</code> | Form feed |
| <code>\n</code> | Newline (Use <code>\p</code> in UltraEdit for platform independent line end) |
| <code>\r</code> | Carriage return |
| <code>\t</code> | Tab |
| <code>\v</code> | Vertical tab |
| <code>\a</code> | Alarm (beep) |
| <code>\e</code> | Escape |
| <code>\xxx</code> | The ASCII character specified by the octal number xxx |
| <code>\xnn</code> | The ASCII character specified by the hexadecimal number nn |
| <code>\cX</code> | The control character ^X. For example, <code>\cl</code> is equivalent to <code>\t</code> and <code>\cJ</code> is equivalent to <code>\n</code> |

| Character Classes | | | | | | | | | | | | | | | |
|-------------------|---|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--|
| [...] | Any one character between the brackets. | | | | | | | | | | | | | | |
| [^...] | Any one character not between the brackets. | | | | | | | | | | | | | | |
| . | Any character except newline. Equivalent to <code>[^\n]</code> | | | | | | | | | | | | | | |
| \w | Any word character. Equivalent to <code>[a-zA-Z0-9_]</code> and <code>[[:alnum:]]</code> | | | | | | | | | | | | | | |
| \W | Any non-word character. Equivalent to <code>[^a-zA-Z0-9_]</code> and <code>[^[:alnum:]]</code> | | | | | | | | | | | | | | |
| \s | Any whitespace character. Equivalent to <code>[\t\n\r\f\v]</code> and <code>[[:space:]]</code> | | | | | | | | | | | | | | |
| \S | Any non-whitespace. Equivalent to <code>[^\t\n\r\f\v]</code> and <code>[^[:space:]]</code> Note: <code>\w != \S</code> | | | | | | | | | | | | | | |
| \d | Any digit. Equivalent to <code>[0-9]</code> and <code>[[:digit:]]</code> | | | | | | | | | | | | | | |
| \D | Any character other than a digit. Equivalent to <code>[^0-9]</code> and <code>[^[:digit:]]</code> | | | | | | | | | | | | | | |
| [\b] | A literal backspace (special case) | | | | | | | | | | | | | | |
| [[:class:]] | <table><tr><td>alnum</td><td>alpha</td><td>ascii</td><td>blank</td><td>cntrl</td><td>digit</td><td>graph</td></tr><tr><td>lower</td><td>print</td><td>punct</td><td>space</td><td>upper</td><td>xdigit</td><td></td></tr></table> | alnum | alpha | ascii | blank | cntrl | digit | graph | lower | print | punct | space | upper | xdigit | |
| alnum | alpha | ascii | blank | cntrl | digit | graph | | | | | | | | | |
| lower | print | punct | space | upper | xdigit | | | | | | | | | | |

| Replacement | |
|--------------------|---|
| <code>\</code> | Turn off the special meaning of the following character. |
| <code>\n</code> | Restore the text matched by the nth pattern previously saved by <code>\(</code> and <code>\)</code> . n is a number from 1 to 9, with 1 starting on the left. |
| <code>&</code> | Reuse the text matched by the search pattern as part of the replacement pattern. |
| <code>~</code> | Reuse the previous replacement pattern in the current replacement pattern. Must be the only character in the replacement pattern. (ex and vi). |
| <code>%</code> | Reuse the previous replacement pattern in the current replacement pattern. Must be the only character in the replacement pattern. (ed). |
| <code>\u</code> | Convert first character of replacement pattern to uppercase. |
| <code>\U</code> | Convert entire replacement pattern to uppercase. |
| <code>\l</code> | Convert first character of replacement pattern to lowercase. |
| <code>\L</code> | Convert entire replacement pattern to lowercase. |

| Repetition | |
|--------------------|--|
| <code>{n,m}</code> | Match the previous item at least n times but no more than m times. |
| <code>{n,}</code> | Match the previous item n or more times. |
| <code>{n}</code> | Match exactly n occurrences of the previous item. |
| <code>?</code> | Match zero or one occurrences of the previous item. Equivalent to <code>{0,1}</code> |
| <code>+</code> | Match one or more occurrences of the previous item. Equivalent to <code>{1,}</code> |
| <code>*</code> | Match zero or more occurrences of the previous item. Equivalent to <code>{0,}</code> |
| <code>{ } ?</code> | Non-greedy match - will not include the next match's characters. |
| <code>? ?</code> | Non-greedy match. |
| <code>+ ?</code> | Non-greedy match. |
| <code>* ?</code> | Non-greedy match. E.g. <code>^(.+?)\s*\$</code> the grouped expression will not include trailing spaces. |

| Options | |
|----------------|---|
| <code>g</code> | Perform a global match. That is, find all matches rather than stopping after the first match. |
| <code>i</code> | Do case-insensitive pattern matching. |
| <code>m</code> | Treat string as multiple lines (^ and \$ match internal \n). |
| <code>s</code> | Treat string as single line (^ and \$ ignore \n, but . matches \n). |
| <code>x</code> | Extend your pattern's legibility with whitespace and comments. |

| Extended Regular Expression | |
|-----------------------------|---|
| <code>(?#...)</code> | Comment, "..." is ignored. |
| <code>(?:...)</code> | Matches but doesn't return "..." |
| <code>(?=...)</code> | Matches if expression would match "..." next |
| <code>(?!...)</code> | Matches if expression wouldn't match "..." next |
| <code>(?imsx)</code> | Change matching rules (see options) midway through an expression. |

| Grouping | |
|--------------------|--|
| <code>(...)</code> | Grouping. Group several items into a single unit that can be used with <code>*</code> , <code>+</code> , <code>?</code> , <code> </code> , and so on, and remember the characters that match this group for use with later references. |
| <code> </code> | Alternation. Match either the subexpressions to the left or the subexpression to the right. |
| <code>\n</code> | Match the same characters that were matched when group number n was first matched. Groups are subexpressions within (possibly nested) parentheses. |

| Anchors | |
|-----------------|--|
| <code>^</code> | Match the beginning of the string, and, in multiline searches, the beginning of a line. |
| <code>\$</code> | Match the end of the string, and, in multiline searches, the end of a line. |
| <code>\b</code> | Match a word boundary. That is, match the position between a <code>\w</code> character and a <code>\W</code> character. (Note, however, that <code>[\b]</code> matches backspace.) |
| <code>\B</code> | Match a position that is not a word boundary. |