# Regular Expressions Quick-Reference/Comparison Chart



| | vim | BREs | EREs | perlexpr |
|---|---|---|---|---|
| **Universal Conventions** | **Matches:** | | | |
| . | *Any character, except the newline character*[1] | | | |
| * | *Zero or more of preceding character* | | | |
| ^ | *Beginning of any line, but not the newline itself*[2,3] | | | |
| $ | *End of any line, but not the newline itself*[2,3] | | | |
| [abc4-9] | *Any character listed* | | | |
| [^abc4-9] | *A character not listed* | | | |
| **Variable Notations** | **Is matched by:** | | | |
| **Stream/File Begin, End** | \%^, \%$ | — | — | \A, \Z |
| **0 or 1 of Preceding Atom** | \? or \= | — | \? | ? |
| **1+ of Preceding Atom** | \+ | \+ | + | + |
| **Repetition Exactly** | \{n} | \{n\} | {n} | {n} |
| **Repetition Minimum** | \{n,} | \{n,\} | {n,} | {n,} |
| **Repetition Range** | \{n,m} | \{n,m\} | {n,m} | {n,m} |
| **Repetition Maximum** | \{,n} | — | — | — |
| **Lazy Quantifiers** | — | — | — | *?, +?, ??, {}? |
| **Alternation** | \| | — | \| | \| |
| **Grouping, Recall $n^{th}$** | \(…\), $\backslash n$ | \(…\), $\backslash n$ | (…), $\backslash n$ | (…), $n |
| **Non-Capture Grouping** | \%(…\) | — | — | (?:…) |
| **Recall Entire Match** | & | — | — | \& |
| **Word Boundary** | \<\> | \<\>, \b | \<\>, \b | \b |
| **Non-Word Boundary** | — | \B | \B | \B |
| **Part-of-word**[4] | \w | — | — | \w |
| **Non-word**[5] | \W | — | — | \W |
| **Whitespace** | \s | [[:space:]] | [[:space:]] | \s |
| **Non-whitespace** | \S | — | — | \S |
| **Alpha/Numerics** | — | [[:alnum:]] | [[:alnum:]] | \{IsAlnum} |
| **Alphabeticals** | \a | [[:alpha:]] | [[:alpha:]] | \{IsAlpha} |
| **Digits (Octal)** | \o | — | — | — |
| **Digits (Decimal)** | \d | [[:digit:]] | [[:digit:]] | \d |
| **Non-Digit (Decimal)** | \D | — | — | \D |
| **Digits (Hex)** | \x | [[:xdigit:]] | [[:xdigit:]] | \{IsXDigit} |
| **Punctuation** | — | [[:punct:]] | [[:punct:]] | \{IsPunct} |
| **Lower-Case** | \l | [[:lower:]] | [[:lower:]] | \{IsLower} |
| **Upper-Case** | \u | [[:upper:]] | [[:upper:]] | \{IsUpper} |
| **All Derivatives of *"a"*** | [[= a =]][6] | [[= a =]] | [[= a =]] | — |
| **Tab** | \t | — | \t | \t |
| **Newline** | \n | \n[7] | \n[7] | \n |
| **Carrage Return** | \r | \r | \r | \r |
| **Lookbehind Match** | — | — | — | (?<=…) |
| **Lookbehind Nonmatch** | — | — | — | (?<!…) |
| **Lookahead Match** | — | — | — | (?=…) |
| **Lookahead Nonmatch** | — | — | — | (?!…) |
| **Behaviour Switches** | **Is provided by the switch:** | | | |
| **Replace every match** | /g | | | |
| **Case-insensitivity** | \c | -i or /i | -i or /i | /i |
| **. Matches Newlines** | $\backslash .. \leftarrow (Atom)$ | — | — | /s |
| **$ and ^ Match Internal \n** | *(Always True)* | *(Always True)* | *(Always True)* | /m |

[1] In Perl, this will also match newlines if /s is specified.
[2] In BREs, "^" is only has this meaning at the beginning of the regex, and "$" only at the end.
[3] In Perl, "^" and "$" only match the very beginning or end of the search string unless the /m is specified.
[4] Generally, [0-9a-zA-Z_], but may be locale-dependent.
[5] Generally, [ô-9a-zA-Z_], but may be locale-dependent.
[6] This doesn't match uppercase or several diacritics.
[7] The tools `grep` and `sed` don't pass \n to regexes, so this won't match anything.