Regular Expressions

Escape Character

`\` – Escape character

Metacharacters (must be escaped)

```
^  $  (  )  .  *  +  ?
[  {  \  |  <  >
```

Anchors

`^` – Start of string
`\A` – Start of string
`$` – End of string
`\Z` – End of string
`\b` – Word boundary
`\B` – Not word boundary
`\<` – Start of word
`\>` – End of word

Character Classes

`\c` – Control character
`\s` – White space
`\S` – Not white space
`\d` – Digit
`\D` – Not digit
`\w` – Word
`\W` – Not word
`\x` – Hex digit
`\0` – Oct digit

Special Characters

`\n` – New line
`\r` – Carriage return
`\t` – Tab
`\v` – Vertical tab
`\f` – From feed
`\xxx` – Oct character xxx
`\xhh` – Hex character hh

POSIX

`[:upper:]` – Upper case letters
`[:lower:]` – Lower case letters
`[:alpha:]` – All letters
`[:alnum:]` – Digits and letters
`[:digit:]` – Digits
`[:xdigit:]` – Hex digits
`[:punct:]` – Punctuation
`[:blank:]` – Space and tab
`[:space:]` – Blank characters
`[:cntrl:]` – Control characters
`[:graph:]` – Printed characters
`[:print:]` – Printed characters and spaces
`[:word:]` – Digits, letters and underscore

Quantifiers

`*` – 0 or more
`+` – 1 or more
`?` – 0 or 1
`{3}` – Exactly 3
`{3,}` – 3 or more
`{3,5}` – 3, 4 or 5

Groups and Ranges

`.` – Any character except new line
`(a|b)` – a or b
`(...)` – Group
`(?:...)` – Passive group
`[abc]` – Range (a or b or c)
`[^abc]` – Not a or not b or not c
`[a-q]` – Letter between a and q
`[A-Q]` – Letter between A and Q
`[0-7]` – Digit between 0 and 7

Assertions

`?=` – Lookahead assertion
`?!` – Negative lookahead
`?<=` – Lookbehind assertion
`?!=` – Negative lookbehind
`?<!` – Negative lookbehind
`?>` – Once-only subexpression
`?()` – Condition if-then
`?()|` – Condition if-then-else
`?#` – Comment

Backreferences

`$n` – n-th non-passive group
`` $` `` – Before natched string
`$'` – After matched string
`$+` – Last matched string
`$&` – Entire matched string

Pattern Modifiers

`g` – Global match
`i` – Case-insensitive
`m` – Multiple lines
`s` – Treat string as dingle line
`x` – Allow comments and white spaces
`e` – Evaluate replacement
`U` – Ungreedy pattern