

# Regular Expressions Cheat Sheet

## Metacharacters (must be escaped)

Symbol	Meaning
-----	-----
^	Start of string
\$	End of string
( )	Grouping
< >	Word boundaries
.	Any character
* + ?	Quantifiers
[ ]	Character class
{ }	Repetition
\	Escape
	Alternation

## Special Characters

Symbol	Meaning
-----	-----
\n	Newline
\r	Carriage return
\t	Tab
\v	Vertical tab
\f	Form feed
\xxx	Octal character
\xhh	Hex character

## Quantifiers

Symbol	Meaning
-----	-----
*	0 or more
+	1 or more
?	0 or 1
{3}	Exactly 3
{3,}	3 or more
{3,5}	3 to 5

## Anchors

Symbol	Meaning
-----	-----
^, \A	Start of string
\$, \Z	End of string
\b	Word boundary
\B	Not word boundary
\<, \>	Word boundaries

## POSIX Classes

[[:upper:]]	Uppercase letters
[[:lower:]]	Lowercase letters
[[:alpha:]]	All letters
[[:alnum:]]	Letters and digits
[[:digit:]]	Digits
[[:xdigit:]]	Hex digits
[[:punct:]]	Punctuation
[[:space:]]	Space characters
[[:word:]]	Letters, digits, underscore

## Character Classes

Symbol	Meaning
-----	-----
\c	Control character
\s, \S	Whitespace / not whitespace
\d, \D	Digit / not digit
\w, \W	Word / not word
\x, \0	Hex / Octal digit

## Pattern Modifiers

g	Global match
i	Case-insensitive
m	Multi-line
s	Dot matches newline
x	Allow whitespace/comments
e	Evaluate replacement
U	Ungreedy

## Assertions

(?=...)	Lookahead
(?!...)	Negative lookahead
(?<=...)	Lookbehind
(?<!...)	Negative lookbehind
(?>...)	Atomic group
(?() )	Conditional
(?#...)	Comment

## Replacement Tokens

\$n	nth non-passive group
\$1, \$2	Match from group 1, 2
\$`	Before match
\$'	After match
\$+	Last match
&	Entire match

## Sample Patterns

([A-Za-z0-9-]+)	Alphanumeric + hyphens
(\d{1,2}/\d{1,2}/\d{4})	Date (e.g. 21/3/2006)
(([^\\s]+(?:\\. (jpg gif png)))\\.\\2)	Image extensions
(^[1-9]\$ ^[1-4][0-9]\$ ^50\$)	Number -150
(#[A-Fa-f0-9]){3,6})	Hex color code
(?=.*\\d)(?=.*[a-z])(?=.*[A-Z])	Strong password
(\\w+@[a-zA-Z_]+?\\. [a-zA-Z]{2,6})	Email
(\\<(/?[^\>]+)\\>)	HTML tags