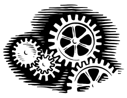
.NET FRAMEWORK REGULAR EXPRESSIONS



SINGLE CHARACTERS

Use	To match any character
[*set*]	In that set
[^*set*]	Not in that set
[*a–z*]	In the *a-z* range
[^*a–z*]	Not in the a-z range
.	Any except \n (new line)
\char	Escaped special character

CONTROL CHARACTERS

Use	To match	Unicode
\t	Horizontal tab	\u0009
\v	Vertical tab	\u000B
\b	Backspace	\u0008
\e	Escape	\u001B
\r	Carriage return	\u000D
\f	Form feed	\u000C
\n	New line	\u000A
\a	Bell (alarm)	\u0007
\c *char*	ASCII control character	–

NON-ASCII CODES

Use	To match character with
\octal	2-3 digit octal character code
\x *hex*	2-digit hex character code
\u *hex*	4-digit hex character code

CHARACTER CLASSES

Use	To match character
\p{*ctgry***}**	In that Unicode category or block
\P{*ctgry***}**	Not in that Unicode category or block
\w	Word character
\W	Non-word character
\d	Decimal digit
\D	Not a decimal digit
\s	White-space character
\S	Non-white-space char

QUANTIFIERS

Greedy	Lazy	Matches
*	*?	0 or more times
+	+?	1 or more times
?	??	0 or 1 time
{*n*}	{*n*}?	Exactly *n* times
{*n*,}	{*n*,}?	At least *n* times
{*n*,*m*}	{*n*,*m*}?	From *n* to *m* times

ANCHORS

Use	To specify position
^	At start of string or line
\A	At start of string
\z	At end of string
\Z	At end (or before \n at end) of string
$	At end (or before \n at end) of string or line
\G	Where previous match ended
\b	On word boundary
\B	Not on word boundary

GROUPS

Use	To define
(*exp*)	Indexed group
(?<*name*>*exp*)	Named group
(?<*name1-name2*>*exp*)	Balancing group
(?:*exp*)	Noncapturing group
(?=*exp*)	Zero-width positive lookahead
(?!*exp*)	Zero-width negative lookahead
(?<=*exp*)	Zero-width positive lookbehind
(?<!*exp*)	Zero-width negative lookbehind
(?>*exp*)	Non-backtracking (greedy)

INLINE OPTIONS

Option	Effect on match
i	Case-insensitive
m	Multiline mode
n	Explicit (named)
s	Single-line mode
x	Ignore white space

Use	To
(?imnsx-imnsx)	Set or disable the specified options
(?imnsx-imnsx:*exp***)**	Set or disable the specified options within the expression

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BACKREFERENCES

Use	To match
\n	Indexed group
\k<*name***>**	Named group

ALTERNATION

Use	To match
a | *b*	Either *a* or *b*
(?(*exp*) *yes* | *no*)	*yes* if *exp* is matched *no* if *exp* isn't matched
(?(*name*) *yes* | *no*)	*yes* if *name* is matched *no* if *name* isn't matched

SUBSTITUTION

Use	To substitute
$*n*	Substring matched by group number *n*
${*name*}	Substring matched by group *name*
$$	Literal $ character
$&	Copy of whole match
$`	Text before the match
$'	Text after the match
$+	Last captured group
$_	Entire input string

COMMENTS

Use	To
(?# *comment*)	Add inline comment
#	Add x-mode comment

For detailed information and examples, see **http://aka.ms/regex**

To test your regular expressions, see **http://regexlib.com/RETester.aspx**

SUPPORTED UNICODE CATEGORIES

Category	Description
Lu	Letter, uppercase
Ll	Letter, lowercase
Lt	Letter, title case
Lm	Letter, modifier
Lo	Letter, other
L	Letter, all
Mn	Mark, nonspacing combining
Mc	Mark, spacing combining
Me	Mark, enclosing combining
M	Mark, all diacritic
Nd	Number, decimal digit
Nl	Number, letterlike
No	Number, other
N	Number, all
Pc	Punctuation, connector
Pd	Punctuation, dash
Ps	Punctuation, opening mark
Pe	Punctuation, closing mark
Pi	Punctuation, initial quote mark
Pf	Puntuation, final quote mark
Po	Punctuation, other
P	Punctuation, all
Sm	Symbol, math
Sc	Symbol, currency
Sk	Symbol, modifier
So	Symbol, other
S	Symbol, all
Zs	Separator, space
Zl	Separator, line
Zp	Separator, paragraph
Z	Separator, all
Cc	Control code
Cf	Format control character
Cs	Surrogate code point
Co	Private-use character
Cn	Unassigned
C	Control characters, all

For named character set blocks (e.g., Cyrillic), search for "supported named blocks" in the MSDN Library.

REGULAR EXPRESSION OPERATIONS

Class: System.Text.RegularExpressions.Regex

Pattern matching with Regex objects

To initialize with	Use constructor
Regular exp	Regex(String)
+ options	Regex(String, RegexOptions)
+ time-out	Regex(String, RegexOptions, TimeSpan)

Pattern matching with static methods

Use an overload of a method below to supply the regular expression and the text you want to search.

Finding and replacing matched patterns

To	Use method
Validate match	Regex.IsMatch
Retrieve single match	Regex.Match (first) Match.NextMatch (next)
Retrieve all matches	Regex.Matches
Replace match	Regex.Replace
Divide text	Regex.Split
Handle char escapes	Regex.Escape Regex.Unescape

Getting info about regular expression patterns

To get	Use Regex API
Group names	GetGroupNames GetGroupNameFromNumber
Group numbers	GetGroupNumbers GetGroupNumberFromName
Expression	ToString
Options	Options
Time-out	MatchTimeOut
Cache size	CacheSize
Direction	RightToLeft