

| Anchors |                     |
|---------|---------------------|
| ^       | Start of line +     |
| \A      | Start of string +   |
| \$      | End of line +       |
| \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                 |  |  |
| \xhh  | Hexadecimal character hh |  |  |
| \Oxxx | Octal character xxx      |  |  |

## **POSIX Character Classes**

| [:upper:]  | Upper case letters     |
|------------|------------------------|
| [:lower:]  | Lower case letters     |
| [:alpha:]  | All letters            |
| [:alnum:]  | Digits and letters     |
| [:digit:]  | Digits                 |
| [:xdigit:] | Hexadecimal 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             |

### **Assertions**

| ?=   | Lookahead assertion +    |
|--|--------------------------|
| ?!   | Negative lookahead +     |
| ?<=  | Lookbehind assertion +   |
| ?!= or ? </td <td>Negative lookbehind +</td> | Negative lookbehind +    |
| ?>   | Once-only Subexpression  |
| ?()  | Condition [if then]      |
| ?()  | Condition [if then else] |
| ?#   | Comment                  |

Note

Items marked + should work in most regular expression implementations.

## **Sample Patterns**

| Letters, numbers and hyphens               |
|--|
| Date (e.g. 21/3/2006)                      |
| jpg, gif or png image                      |
| Any number from 1 to 50 inclusive          |
| Valid hexadecimal colour code              |
| 8 to 15 character string with at least one |
| upper case letter, one lower case letter,  |
| and one digit (useful for passwords).      |
| Email addresses                            |
| HTML Tags                                  |
|  |

Note

These patterns are intended for reference purposes and have not been extensively tested. Please use with caution and test thoroughly before use.

|     |    |   | 10 |   |   |  |
|-----|----|---|----|---|---|--|
| (0) | ua | m | 41 | ď | 2 |  |
| -   |    | - | -  | - | _ |  |
|     |    |   |    |   |   |  |

| *      | 0 or more +           |
|--------|-----------------------|
| *?     | 0 or more, ungreedy + |
| +      | 1 or more +           |
| +?     | 1 or more, ungreedy + |
| ?      | 0 or 1 +              |
| ??     | 0 or 1, ungreedy +    |
| {3}    | Exactly 3 +           |
| {3,}   | 3 or more +           |
| {3,5}  | 3, 4 or 5 +           |
| {3,5}? | 3, 4 or 5, ungreedy + |
|        |                       |

## **Special Characters**

| \        | Escape Character + |
|----------|--------------------|
| \n       | New line +         |
| \r       | Carriage return +  |
| \t       | Tab +              |
| \v       | Vertical tab +     |
| \f       | Form feed +        |
| \a       | Alarm              |
| [\b]     | Backspace          |
| \e       | Escape             |
| \N{name} | Named Character    |

### **String Replacement (Backreferences)**

| \$n  | nth non-passive group      |
|------|----------------------------|
| \$2  | "xyz" in /^(abc(xyz))\$/   |
| \$1  | "xyz" in /^(?:abc)(xyz)\$/ |
| \$`  | Before matched string      |
| \$'  | After matched string       |
| \$+  | Last matched string        |
| \$&  | Entire matched string      |
| \$_  | Entire input string        |
| \$\$ | Literal "\$"               |

### Ranges

|            | Any character except new line (\n) + |
|------------|--------------------------------------|
| (a b)      | a or b +                             |
| ()         | Group +                              |
| (?:)       | Passive Group +                      |
| [abc]      | Range (a or b or c) $+$              |
| [^abc]     | Not a or b or c +                    |
| [a-q]      | Letter between a and q $+$           |
| [A-Q]      | Upper case letter +                  |
|            | between A and Q +                    |
| [0-7]      | Digit between 0 and 7 +              |
| \ <i>n</i> | nth group/subpattern +               |

Note

Ranges are inclusive.

## **Pattern Modifiers**

| g | Global match                |
|---|-----------------------------|
| i | Case-insensitive            |
| m | Multiple lines              |
| S | Treat string as single line |
| x | Allow comments and          |
|   | white space in pattern      |
| е | Evaluate replacement        |
| U | Ungreedy pattern            |

# Metacharacters (must be escaped)

| ^  | [ | i |  |
|----|---|---|--|
| \$ | { | * |  |
| (  | \ | + |  |
| )  | 1 | ? |  |
| <  | > |   |  |
|    |   |   |  |

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