

# 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**

| ([A-Za-z0-9-]+)                             | Letters, numbers and hyphens               |
|---|--|
| $(\d{1,2})\d{1,2}\)$                        | Date (e.g. 21/3/2006)                      |
| $([^\s]+(?=\.(jpg gif png))\.\2)$           | jpg, gif or png image                      |
| (^[1-9]{1}\$ ^[1-4]{1}[0-9]{1}\$ ^50\$)     | Any number from 1 to 50 inclusive          |
| (#?([A-Fa-f0-9]){3}(([A-Fa-f0-9]){3})?)     | Valid hexadecimal colour code              |
| $((?=.*\d)(?=.*[a-z])(?=.*[A-Z]).\{8,15\})$ | 8 to 15 character string with at least one |
|   | upper case letter, one lower case letter,  |
|   | and one digit (useful for passwords).      |
| $(\w+@[a-zA-Z_]+?\.[a-zA-Z]\{2,6\})$        | 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.

### **Quantifiers**

| *      | 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<br>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)**

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

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