



### 3. Soluciones

| Ejercicio            | Expresión Regular   | Aplica   | No coincide   |
|----------------------|---|--|---|
| 1. Nombre de usuario | <code>/^[a-z0-9_-]{3,16}\$/</code>  | us3r_n4m3  | th1s1s-wayt00_l0ngt0beusername                                  |
| 2. Valor Hexadecimal | <code>/^#?([a-f0-9]{6} [a-f0-9]{3})\$/</code>   | #a3c113  | #4d82h4   |
| 3. Dirección Email   | <code>/^([a-z0-9_\.-]+)@([\da-z\.-]+)\.([a-z\.-]{2,6})\$/</code>  | john@doe.com   | john@doe.algo   |
| 4. URL               | <code>/^(https?:\/\/)?([\da-z\.-]+)\.([a-z\.-]{2,6})([\/\w\.-]*)*\/?\$</code>                             | https://net.tutsplus.com/about                             | http://Google.com/some/File!.html                               |
| 5. IP                | <code>/^((?:25[0-5] 2[0-4][0-9] [01]?[0-9][0-9]?)\.){3}(?:25[0-5] 2[0-4][0-9] [01]?[0-9][0-9]?)\$/</code> | 73.60.124.136  | 256.60.124.136  |
| 6. Etiqueta HTML     | <code>/^&lt;([a-z]+)([^\&lt;]+)*(?:&gt;(.*)&lt;\/\1&gt; \s+\/&gt;)\$/</code>                              | <code>&lt;img src="img.jpg" alt = "mi imagen" /&gt;</code> | <code>&lt;img src="img.jpg" alt = "mi imagen &gt;" /&gt;</code> |



|   |  |   |
|---|--|---|
| <p><b>^</b> Start of string, or start of line in multi-line pattern</p> <p><b>\A</b> Start of string</p> <p><b>\$</b> End of string, or end of line in multi-line pattern</p> <p><b>\Z</b> End of string</p> <p><b>\b</b> Word boundary</p> <p><b>\B</b> Not word boundary</p> <p><b>&lt;</b> Start of word</p> <p><b>&gt;</b> End of word</p>  | <p><b>Quantifiers</b></p> <p><b>*</b> 0 or more {3} Exactly 3</p> <p><b>+</b> 1 or more {3,} 3 or more</p> <p><b>?</b> 0 or 1 {3,5} 3, 4 or 5</p> <p>Add a <b>?</b> to a quantifier to make it ungreedy.</p>   | <p><b>Groups and Ranges</b></p> <p><b>.</b> Any character except new line (\n)</p> <p><b>(a b)</b> a or b</p> <p><b>(...)</b> Group</p> <p><b>(?...)</b> Passive (non-capturing) group</p> <p><b>[abc]</b> Range (a or b or c)</p> <p><b>[^abc]</b> Not (a or b or c)</p> <p><b>[a-q]</b> Lower case letter from a to q</p> <p><b>[A-Q]</b> Upper case letter from A to Q</p> <p><b>[0-7]</b> Digit from 0 to 7</p> <p><b>\x</b> Group/subpattern number "x"</p> <p>Ranges are inclusive.</p> |
| <p><b>Character Classes</b></p> <p><b>\c</b> Control character</p> <p><b>\s</b> White space</p> <p><b>\S</b> Not white space</p> <p><b>\d</b> Digit</p> <p><b>\D</b> Not digit</p> <p><b>\w</b> Word</p> <p><b>\W</b> Not word</p> <p><b>\x</b> Hexadecimal digit</p> <p><b>\O</b> Octal digit</p>  | <p><b>Escape Sequences</b></p> <p><b>\</b> Escape following character</p> <p><b>\Q</b> Begin literal sequence</p> <p><b>\E</b> End literal sequence</p> <p>"Escaping" is a way of treating characters which have a special meaning in regular expressions literally, rather than as special characters.</p> <p><b>Common Metacharacters</b></p> <p><b>^</b> [ . \$</p> <p><b>{</b> * ( \</p> <p><b>+</b> )   ?</p> <p><b>&lt;</b> &gt;</p> <p>The escape character is usually <b>\</b></p> | <p><b>Pattern Modifiers</b></p> <p><b>g</b> Global match</p> <p><b>i *</b> Case-insensitive</p> <p><b>m *</b> Multiple lines</p> <p><b>s *</b> Treat string as single line</p> <p><b>x *</b> Allow comments and whitespace in pattern</p> <p><b>e *</b> Evaluate replacement</p> <p><b>U *</b> Ungreedy pattern</p> <p><b>*</b> PCRE modifier</p>   |
| <p><b>POSIX</b></p> <p><b>[upper:]</b> Upper case letters</p> <p><b>[lower:]</b> Lower case letters</p> <p><b>[alpha:]</b> All letters</p> <p><b>[alnum:]</b> Digits and letters</p> <p><b>[digit:]</b> Digits</p> <p><b>[xdigit:]</b> Hexadecimal digits</p> <p><b>[punct:]</b> Punctuation</p> <p><b>[blank:]</b> Space and tab</p> <p><b>[space:]</b> Blank characters</p> <p><b>[cntrl:]</b> Control characters</p> <p><b>[graph:]</b> Printed characters</p> <p><b>[print:]</b> Printed characters and spaces</p> <p><b>[word:]</b> Digits, letters and underscore</p> | <p><b>Special Characters</b></p> <p><b>\n</b> New line</p> <p><b>\r</b> Carriage return</p> <p><b>\t</b> Tab</p> <p><b>\v</b> Vertical tab</p> <p><b>\f</b> Form feed</p> <p><b>\xxx</b> Octal character xxx</p> <p><b>\xhh</b> Hex character hh</p>   | <p><b>String Replacement</b></p> <p><b>\$n</b> nth non-passive group</p> <p><b>\$2</b> "xyz" in /^(abc(xyz))\$/</p> <p><b>\$1</b> "xyz" in /^(?:abc)(xyz)\$/</p> <p><b>\$'</b> Before matched string</p> <p><b>\$'</b> After matched string</p> <p><b>\$+</b> Last matched string</p> <p><b>\$&amp;</b> Entire matched string</p> <p>Some regex implementations use <b>\</b> instead of <b>\$</b>.</p>  |
| <p><b>Assertions</b></p> <p><b>?=</b> Lookahead assertion</p> <p><b>?!</b> Negative lookahead</p> <p><b>?&lt;=</b> Lookbehind assertion</p> <p><b>?!= or ?&lt;!</b> Negative lookbehind</p> <p><b>?&gt;</b> Once-only Subexpression</p> <p><b>?()</b> Condition [if then]</p> <p><b>?() </b> Condition [if then else]</p> <p><b>?#</b> Comment</p>  |  |   |