

# Regular Expression

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# Outline

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- ▶ What's regular expression
- ▶ common regular expression syntax



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What's regular expression

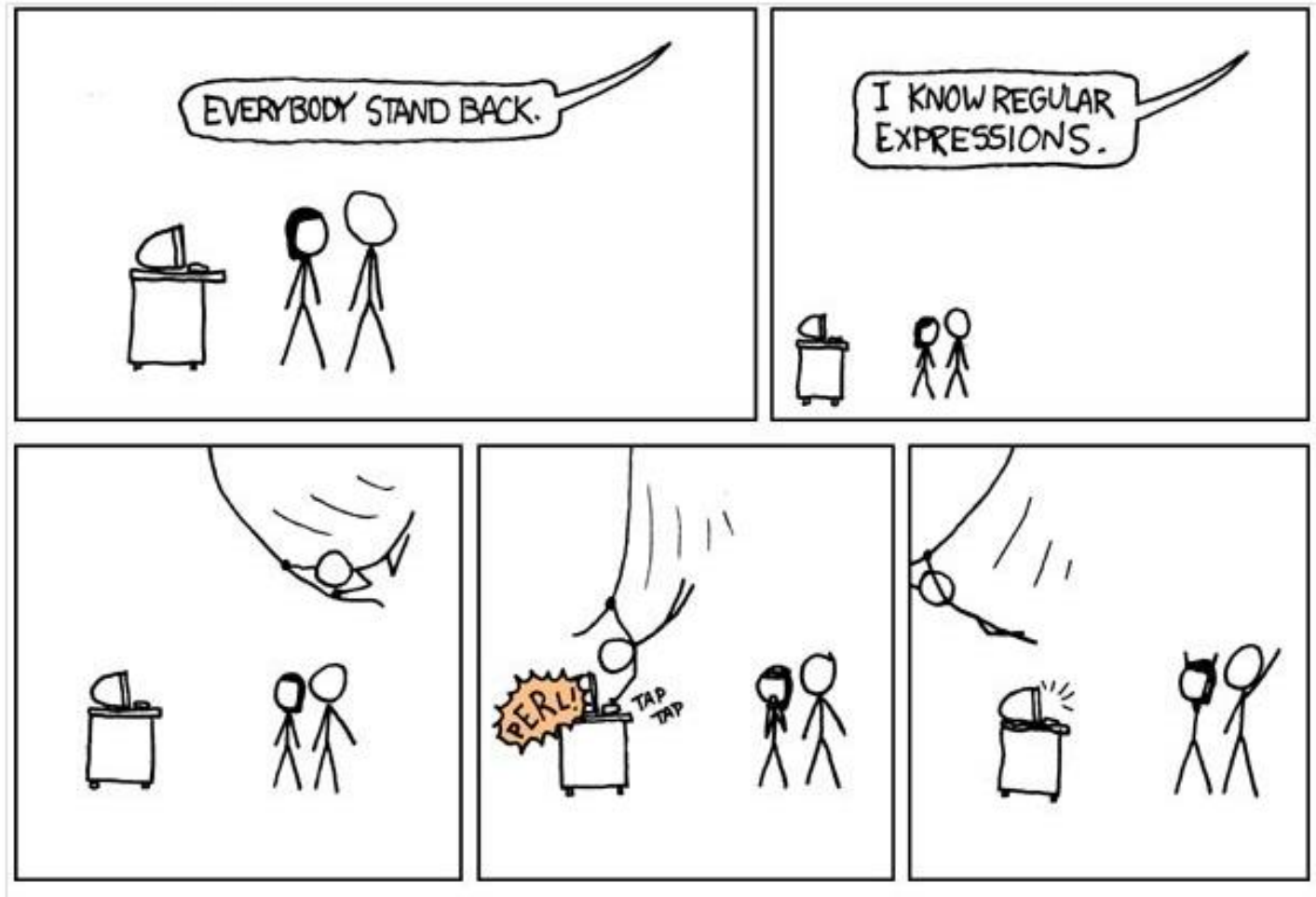


# What's regular expression

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- ▶ Regular express is
  - ▶ really smart “find” or “search”
- ▶ Regular expressions are a powerful string manipulation tool
- ▶ All modern languages have similar library packages for regular expressions

# What's regular expression



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common regular expression syntax



# common regular expression syntax

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## ► Letters inside square brackets []

Pattern	Matches
[li]saac	lsaac, isaac
[0123456789]	any digits
[A-Z]	An upper case letter
[a-z]	A lower case letter
[0-9]	A single digit



# common regular expression syntax

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symbol	meaning
*	0 or more
+	1 or more
?	0 or 1
{3}	Exactly 3
(3,5)	3 or 4 or 5
[abc]	Range(a or b or c)
a   b	a or b
.	Any character except new line(\n)
\	Escape character





# Example

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## ► More regression expression

► <http://i26.tinypic.com/24mxgt4.png>

<code>ab{2,4}c</code>	an <code>a</code> followed by two, three or four <code>b</code> 's followed by a <code>c</code>
<code>ab{2,}c</code>	an <code>a</code> followed by at least two <code>b</code> 's followed by a <code>c</code>
<code>ab*c</code>	an <code>a</code> followed by any number (zero or more) of <code>b</code> 's followed by a <code>c</code>
<code>ab+c</code>	an <code>a</code> followed by one or more <code>b</code> 's followed by a <code>c</code>
<code>ab?c</code>	an <code>a</code> followed by an optional <code>b</code> followed by a <code>c</code> ; that is, either <code>abc</code> or <code>ac</code>
<code>a.c</code>	an <code>a</code> followed by any single character (not newline) followed by a <code>c</code>
<code>a\.c</code>	<code>a.c</code> exactly
<code>[abc]</code>	any one of <code>a</code> , <code>b</code> and <code>c</code>
<code>[Aa]bc</code>	either of <code>Abc</code> and <code>abc</code>
<code>[abc]+</code>	any (nonempty) string of <code>a</code> 's, <code>b</code> 's and <code>c</code> 's (such as <code>a</code> , <code>abba</code> , <code>acbabcacaa</code> )



# Online regular expression validator

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Online regular expression validator

▶ <https://pythex.org/>

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- ▶ <https://medium.com/analytics-vidhya/regular-expressions-an-excellent-tool-for-text-analysis-or-nlp-d1fa7d666cb9>