

Exercises, Week 1, Day 3

With all of these regular expression problems, there are probably many solutions, depending on how you interpret the parameters of the problem, and how strictly you want the pattern to match.

1. Write a single regular expression that will match all of the following - `figure3a`, `figure4x`, `figure9b` - but not the following - `figure3A`, `figureA3`, `figurex7`.
2. Write a single regular expression that will match all of the following - `Message34`, `message3a`, `message5x` - but not the following - `MessageA5`, `messagexx`, `Message3A`.
3. An earlier exercise asked you to write a function to clean up molecular sequences, trimming flanking gaps, changing it all to the same case. Do this with regular expressions.
4. Develop a regular expression that matches lines more than 70 characters long.
5. Develop a regular expression to search for headers in HTML and LaTeX. (In HTML header lines start with `<h1>`, `<h2>`, ... `<h6>`. In LaTeX the following headers exist: `\chapter`, `\section`, `\subsection`, `\subsubsection`, and so on).
6. Write a regular expression that matches a nonnegative floating point number without an exponent, like `6.25`. Ensure that your script does not match `6:25`!
7. Extend your regular expression to match any floating point number without an exponent, like `6.25`, `+7.0`, or `-3.1415926535`.