Template **questions** using the automated approach via Make

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Instructions

1. Edit this template as necessary.
2. Either go to the terminal tab within RStudio, or open a terminal if you are on Unix-like platforms.
3. Set the current directory to where this file is located, if this has not been done yet.
4. Type `make automated` in the terminal to generate all four documents in one go:
    i. Questions in pdf;
    ii. Questions in html;
    iii. Solutions in pdf;
    iv. Solutions in html.

Question 0

What are the main differences between this template and the "manual" template?

Question 1

TYPE YOUR QUESTION HERE.

Question 2

(This is not really a question but an explanation - see above.) You type the "normal" text, usually the question, in a line without any "environment" i.e. there are no backticks, quotes, or hashtags etc. before or after the line. If you want `R` to evaluate something inline, type

1. a single backtick, then
2. the character "r" followed by a space, then
3. the expression in `R` you want to evaulate, and finally
4. another single backtick.

See how it is done in the source code: $1 + 2 = 3$. You will also see that maths being typeset between a pair of single dollar signs are allowed.

Question 3

This is a "pure" maths question, with no statistical or data analysis in `R` required. Prove that

$$(a + b)^2 = a^2 + 2ab + b^2.$$

(In the source code you will also see that maths typeset between a pair of double dollar signs are allowed. Other LaTeX environments allowed are `align`, `equation`, `eqnarray`, their no-numbering versions i.e. with asterisks, and `\[ \]`.)

Question 4

This is a data analysis question. Plot the `cars` data set that is available in `R`.

Question 5

What if I want to evaluate something in `R` but not print the output? Or what if I want to show the code but not evaluate it? More generally, what if I want to customise the printing of some/all of the `R` code, numerical output, and graphical output?

Question 6

What do I need to be aware of when modifying this template?

Question 7

What if I want to generate another set of {questions, answers} $\times$ {pdf, html} using this automated approach?