How to make your own work reproducible: R Markdown

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Overview

- define R Markdown

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- using R Markdown

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- relevance to Replication

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- **transparent formatting**: wysiwyg
- **embedded computation**: share with collaborators, reviewers, colleagues, students, critics

What is R Markdown?

. . . integrating source code, statistical output, and text in R Markdown is ***a model of reproducibility****.*

Such transparency facilitates comprehension, defensibility, and further research or testing.

R Markdown helps to bring the vision for reproducibility in statistical analysis articulated by Gentleman & Temple Lang [2004] to reality.

- Udwin & Baumer 2015, 'R Markdown', arXiv.org

What is R Markdown?

This vision — in which the barriers to verify another's statistical computations from start to finish are low — is the intellectual descendant of Claerbout [1994], Buckheit & Donoho [1995], and began with Knuth [1984], the creator of TEX.

Moreover, R Markdown is dynamic: each time the document is rendered, the commands therein are run anew. If data are altered or different data are called in advance of rendering, then the output is dependent and calculated accordingly.

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How to use R Markdown

installation

- `install.packages('rmarkdown')`

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- `library(rmarkdown)`

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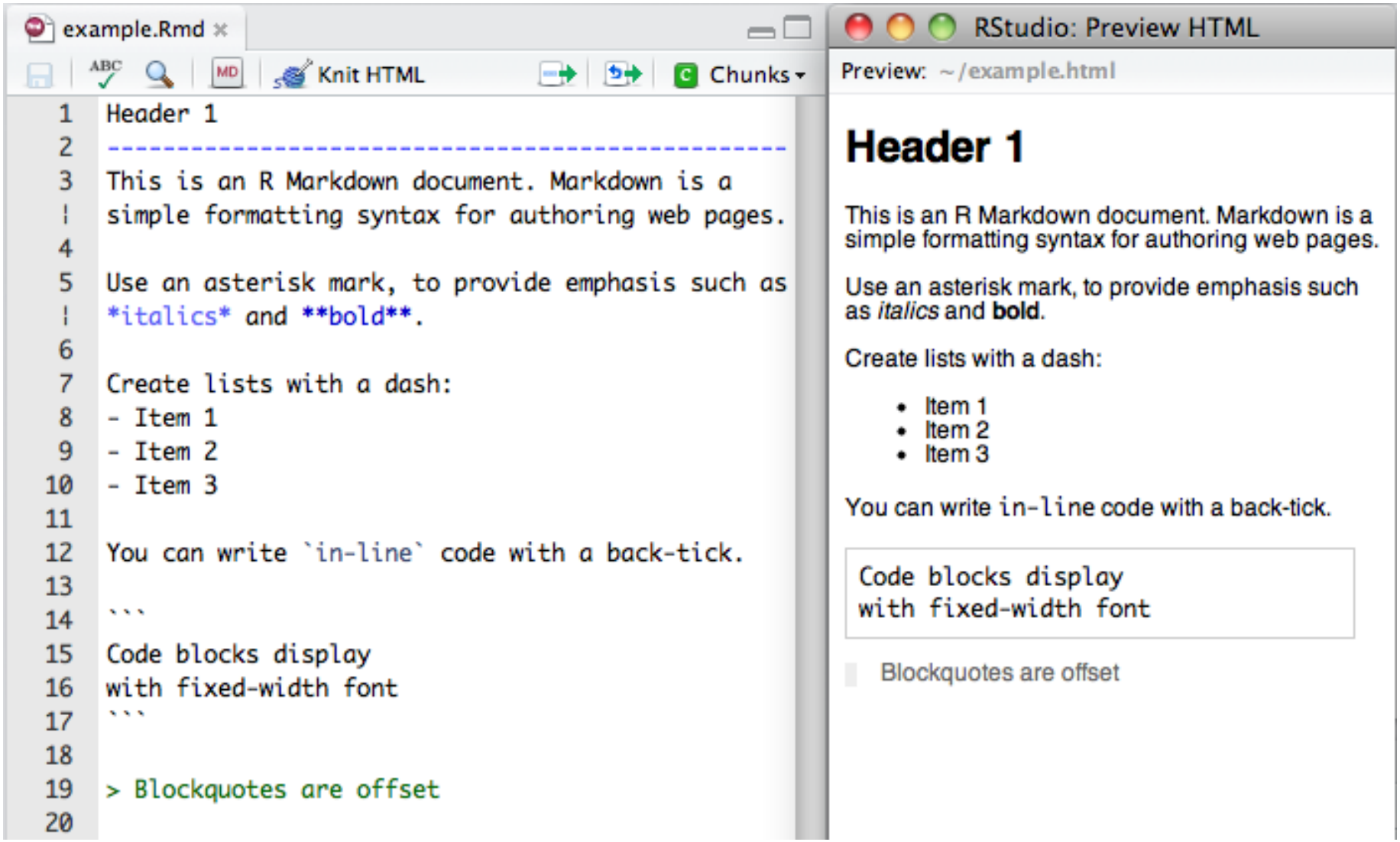
simple syntax, human-readable, transparent formatting



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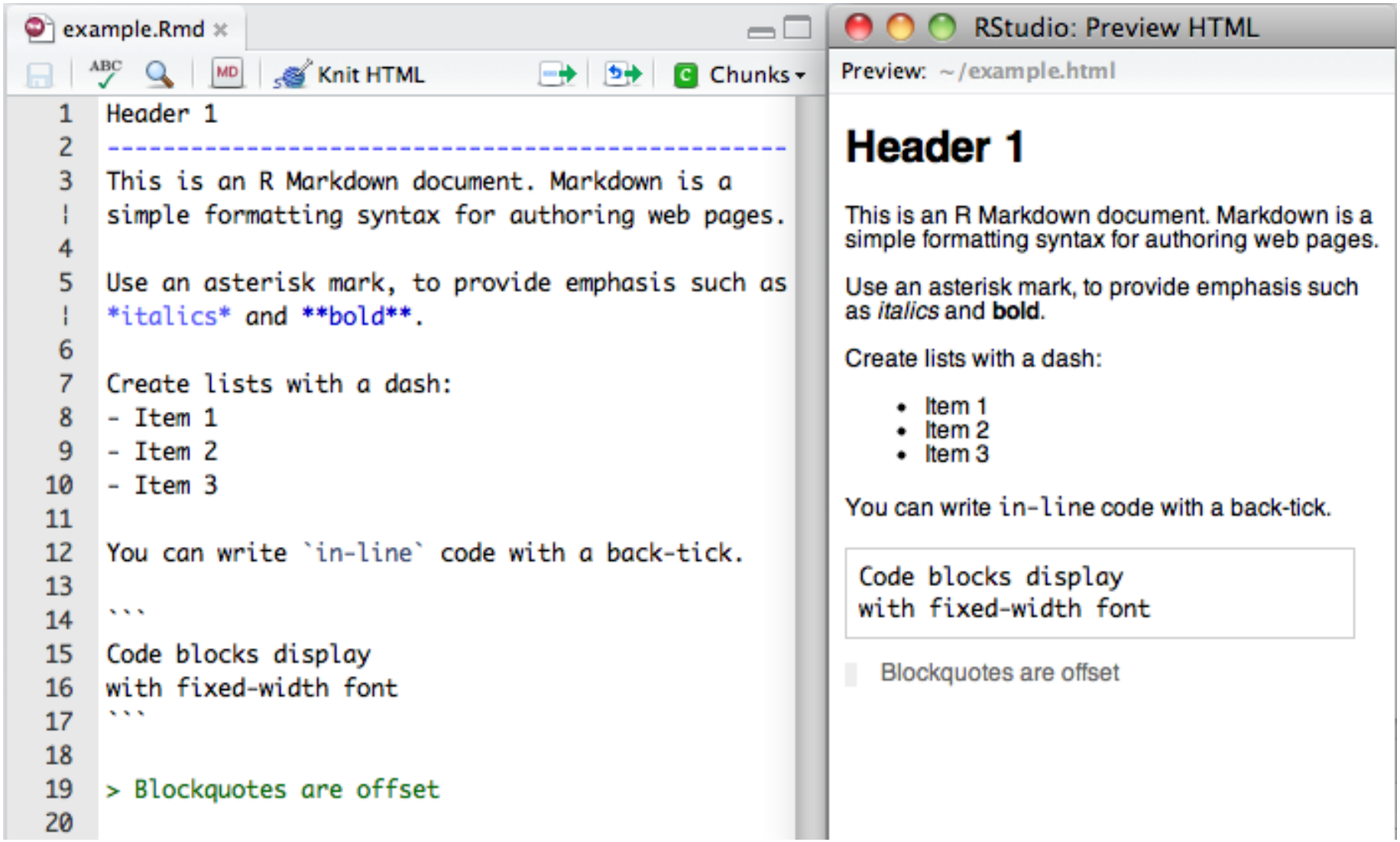
embedded computation



R Markdown and Reproducibility

- paper packages

End