

Just typyt: a pain-free recipe for reproducible reports and publications

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Reproducible science is simple in principle, but requires some level of work and/or discipline to implement. Those of us who are used to traditional WYSIWYG (“what you see is what you get”) tools often have to choose between efficiency and reproducibility, because learning new tools takes time, and who has it?

In some ways, reproducible science has a lot in common with reproducible software building. Many of the open-source tools designed for software developers (git, makefiles...) are well-suited for the needs of researchers, but not all of them are seen (or taught) in this light.

Here I describe an easy-to-learn approach to seamlessly process data, generate tables and figures, and integrate this output into a publication-quality report or manuscript. Many software tools are up to this task, but I will focus on the use of Python, a free, general-purpose programming language which prioritizes speed-of-writing (as opposed to speed-of-execution), and Typst, a modern, easy-to-learn equivalent of LaTeX. Together, these tools can be used to build a dynamic, integrated pipeline going from raw data to submission-ready manuscripts, one that is also well-suited to long-term, DOI-referenced archiving as well as collaborative sharing on platforms such as GitHub or GitLab.

