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SEP 26, 2016 @ 01:29 PM 462 👁

R Is A Great Language, But Some Small Tweaks Would Make It Even Better



Quora, CONTRIBUTOR

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(Photo: HOANG DINH NAM/AFP/Getty Images)

As an extremely experienced user of R, what limitations do you find with the language and where would you like to see improvements? originally appeared on Quora: the knowledge sharing network where compelling questions are answered by people with unique insights.

Answer by Hadley Wickham, Chief Scientist, RStudio, on Quora:

As an extremely experienced user of R, what limitations do you find with the language and where would you like to see improvements? To answer this question, it's important to distinguish between R “the language” and the “standard library” that comes bundled with R. It's tricky to precisely define the difference for R. If there's a problem in the standard library, you can fix it with a package; problems with the language can only be fixed by R core.

Overall, I think the R the language is solid and well suited to the purpose for which it was designed. It's certainly not perfect, but I don't think there aren't many major flaws. I think there are some nice potential improvements to the syntax laid out by [Lionel Henry](#) — in particular, I think it's a shame that R doesn't have a shorter anonymous function syntax, given that it's a functional programming language. I'd also love to have Julia's [triple quoted strings](#) and [non-standard string literals](#).

Thinking bigger:

- I'd love a unification of S3 and S4, at least in the backend, as the APIs would need to remain the same for backward compatibility.
- It would be cool to type annotation. I think the most natural model to follow would be something like [clojure.spec](#). You could imagine extending this to flag other common R behaviours like NSE, or vectorisation, or which function ... is passed on to.

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