

Development Document for DafnyR

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Abstract

DafnyR is an experimental tool for sequential program specification and verification. It is a variant of Dafny, and is inspired by region logic and separation logic. DafnyR is built on a fine-grained region logic and allows one to write different styles of specifications.

1 Adding Region To Dafny

This section states the changes to Dafny source code.

1. *parser* and *emphscanner*: add new syntax to allow region expressions by changing the file `Dafny.atg` and running the tool `CoCo/R`, which generates a new *parser* and a new *scanner*.
2. *Resolver*: adding the new type **Region**.
3. *Translator*: changes to translate Dafny programs with regions to appropriate Boogie programs.
4. *Other changes* changes related to the *printer* and syntax highlighters for the keywords.
5. *Test* adding test cases for new features