How to typeset Julia in LATEX source files

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1 Introduction

I've been searching for how typeset Julia in TEX files, the problem is package minted doesn't work for custom defined Julia types. I found this lexer solution on the Web.

2 Steps

Instead of installing the lexer in your Pygments installation, you can keep the lexer with your TeX documents.

1. If your lexer file is named "jl.py" and the class is "Julia1Lexer", put jl.py in the same directory as your main TeX source file
2. Specify the language in minted with
   begin{minted}{jl.py:Julia1Lexer -x} #code
   end{minted}.

3 Inline code Example

This is an inline code `f(x::Array) = sin.(x)`

4 Listing Example

```
        abstract type IntegrationMethod end
        struct Trapezoidal <: IntegrationMethod end
        """
        integrate(x::AbstractVector, y::AbstractVector, ::Trapezoidal)
        Use Trapezoidal rule.
        """
        function integrate(x::AbstractVector, y::AbstractVector, ::Trapezoidal)
                h = (x[2] - x[1])
                I = h * (y[1] / 2 + sum(y[2:end-1]) + y[end] / 2)
                return I
        end

```

5 References

- The solution steps were suggested by Jonathan Schuster in answer to How to add custom C++ keywords to be recognized by Minted?
- The custom lexer used here is a based on a laxer modified by Mykel J. Kochenderfer. Mykel J. Kochenderfer and is available online at Pygments Julia Lexer