AsciiMath to LaTeX

A Compiler Written in Swift

Stuart Douglas

McMaster University

April 7, 2016

Overview

Brief Project Overview

Motivation: Math syntax in LaTeX is verbose, difficult-to-read, and hard-to-type

Solution: Existing language *AsciiMath* implements subset of LaTeX math mode in a cleaner, more readable syntax

Project: Write a compiler to convert AsciiMath text into LaTeX

AsciiMath Syntax – Simple Example

AsciiMath Syntax – Complex Example

AsciiMath

```
a/b -= alpha_(d in RR)^42 ~= qz sqrt5
```

LaTeX

```
\frac{a}{b} \equiv \alpha_{d \in \mathbb{R}}^{42}
\cong qz \sqrt{5}
```

Output: $a + b < c$

Demonstration

Demonstration of AsciiMath to LaTeX