Pony: Demo 1

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Idea

- Create a small, extensible calculator language
- Using techniques that will be used in extensibility of Pony

The Language

- A simple language: Addition and Subtraction
- Stack-based language; it's easier to parse
- + - 3 2 3 = (3 - 2) + 3

The Language

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- A simple extension: multiplication
- * + - 3 2 3 4 = ((3 - 2) + 3) * 4

Libraries

- Data.Comp
  - Compositional datatypes
  - based off of data types a la carte
  - VERY difficult library
- Text.ParserCombinators.Parsec
  - Parser combinator library
  - Builds parsers from smaller parsers
  - Parsec 2: much simpler internal structure than Parsec 3

Technical Difficulties

- The two libraries do NOT like to play together
- Compositional datatype-based evaluation is picky about when it will evaluate
- Composing parsers is unsolved
  - Luckily, it looks like it might be easier than we thought.