

Brady Dean

10/16/18

## Project Proposal

- This project is to research lambda calculus, which is the mathematical backbone of functional programming languages. In the project, I will discuss how variables, lambda calculus achieves applications, and abstractions (functions) through simple syntax. Along with that, I will discuss simple algorithms (beta reduction) that evaluate expressions in the language. For the purposes of the project, expressions will be math expressions, similar to the ones we used with context-free grammars.
- I will be working by myself.
- Lambda calculus is not difficult to learn up front, but there are further implications and theorems related to the language that I want to investigate.
- I can prove the evaluation of expressions are correct by showing examples of the evaluation algorithm.