1 Introduction

1.1 Overview

Anomia is a keyword-free programming language.

1.2 About

Authors: Michael Jennings.
Started: June 5th, 2024.
GitHub: https://github.com/MichaelHenryJennings/Anomia
Current Version: v0.0.1 (for complete version history, see GitHub repository)

2 Specifications

2.1 Grammar

2.1.1 Formal

2.1.2 Informal

Anomia programs comprise a block of statements, which are either expressions (usually) followed by a semicolon or blocks of statements. Blocks are delimited by curly braces ("{" and "}") with zero or more statements inside. Each expression has one of the following types:

Variable declaration: A variable name, then a colon (":"), then a type name or primitive type identifier.

Type declaration: A type name, then a double colon ("::"), then a class declaration, type name, or primitive type identifier.

Assignment: A variable name, then an equals sign ("="), then a value.

If(else): An expression (the "condition"), then an arrow ("->"), then a statement to execute if the condition was nonzero (true), then (optionally) a tilde (" ") followed by another statement to execute if the condition was zero (false).

Loop: An expression (the "condition"), then a double-sided arrow ("<->"), then a statement to execute while the condition is nonzero (true).

Function call: A function or function name, then a pattern of arguments.

Print: The dollar symbol ("$"), then a pattern of arguments, the first of which is a format string; behaves exactly like a function call.

Size: The pound symbol ("#"), then a type name; returns the size in bytes of that type.

Reference: A backtick, then a name or block of statements (used for function declarations).

Unary Operation: A unary operator ("-", "!", or "@"), then an expression.

Binary Operation: An expression, then a binary operator, then another expression.

Pattern: A set of comma-separated items (of various types) enclosed in square brackets ("[" and "]").

Value: A number or other literal value (e.g. character literal).

Name: A single string of letters (capital or lowercase) and underscores.

3 Appendices

3.1 Version History

v0.0.0 (6/5/2024): initial commit
v0.0.1 (6/5/2024): simple high-level specifications drafted