Group 14 Final Project Write-up

GitHub Repo: <https://github.com/farreled/CS3003Summer2021FinalProject>

YouTube Video:

Project Responsibilities:

* Ned Farrell (farreled)
  + Binary Operator (ding, +\*)
* Armen Krikorian (krikorad)
  + New control structure (until)
* Will Schreiner (schreiwa)
  + test.cpp
* Kevin Slyh (slyhkt)
  + New data type (double)

How we changed CLite:

Documentation Additions

A.1 Lexical and Concrete Syntax of Clite

Type -> int | bool | float | char | double

Literal -> Integer | Boolean | Float | Char | Double

Float -> Integer . Integer f

Double -> Integer . Integer

AddOp -> + | - | +\*

UntilStatement -> until ( Expression ) Statement

A.2 Abstract Syntax of Clite

Type -> int | bool | float | char | double

ArithmeticOp = + | - | \* | / | +\*

DoubleValue = Double doubleValue

A.3 Type System of Clite

A.4 Semantics of Clite

A.5 Adding Functions to Clite

Test Code (test.cpp):

int main() {

// Variable declarations

int intVal;

float floatValA, floatValB, addresult;

double doubleValA, doubleValB, doubleValC, subresult, divMultResult;

// Variable assignment

intVal = 5;

floatValA = 0.7f;

floatValB = 0.3f;

doubleValA = 0.05;

doubleValB = 0.07;

// Basic arithmatic tests

addresult = floatValA + floatValB;

subresult = doubleValB - doubleValA;

divMultResult = doubleValA \* doubleValB;

divMultResult = doubleValA / doubleValB;

doubleValC = doubleValA +\* doubleValB;

until (intVal >= 10) {

intVal = intVal + 1;

}

}

Screenshot/Demonstration of Test Code

Lexer:

![Graphical user interface, application

Description automatically generated]()![Graphical user interface, application

Description automatically generated]()

Parser:![Graphical user interface

Description automatically generated with low confidence]()

![Graphical user interface

Description automatically generated with low confidence]()![Text

Description automatically generated]()