CS335 : C++ Compiler

Group Number: 39

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Source Language: **C++**

Implementation Language: **Python**

Target Language: **MIPS**

Implemented Features

Native Data types (integer, boolean, character).

Variables and Expressions

Control structures

Conditionals (if, if-then-else)

Loops (for, while)

Output statements

Arrays

Functions

Recursion

Pointers (single level / stack pointers)
Multi level Pointers

Non Implemented Features

Input

User defined types (struct, class) - (Semantic Analysis Done)

Highlights

- Semantic Analysis done for struct, class, namespace and scope resolution.
- Temporary Optimization by reusing them in different scopes
- Implicit type casting.

Test Cases We were able to pass

1. Quicksort
2. Ackermann
3. Binary search in an array
4. Fibonacci
5. Odd and Even (Mutual recursion)
6. Short circuit Evaluation
7. Function with > 7 parameters
8. Large expression (Reg. allocation)
9. Bubblesort
10. Jumps over Jump
11. Newton-Raphson
12. Unary Minus vs Binary Minus
13. Operators type check
14. Matrix Multiplication
15. Binary tree traversal