

CS4100/5100 COMPILER PROJECT

Part 1: Foundations Grade Sheet

Main Program should be a simple, modular, calls to other functions:

BuildQuads, BuildSymbolTable, InterpretQuads(Quadtable,SymbolTable,True),
InterpretQuads(Quadtable,SymbolTable,False); as specified

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ADT: QuadTable– indexed list of entries, containing opcode and 3 operand fields; Required Methods: Initialize, NextQuad, AddQuad, GetQuad, SetQuad, GetMnemonic, PrintQuadTable

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Create and use a Quad Table instance and fill it with the Quad codes for in-class score summation and 10-factorial algorithms

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ADT: SymbolTable– indexed list of entries, containing name field, kind, data type field, and value fields for int, double, String; Methods: AddSymbol (3 data types), LookupSymbol, GetSymbol, UpdateSymbol, PrintSymbolTable

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Create and use a Symbol table to accommodate the variables and constants needed to execute the Quad codes correctly

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ADT: ReserveTable- Methods: Init, Add, LookupName, LookupCode, PrintReserveTable

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Create and use a Reserved Words lookup table structure for mnemonics in QuadTable

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Interpreter method- Has parameters: Quads, Symbol, Trace, complete and correctly implements all defined opcodes

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Good Software Engineering throughout, encapsulated, functions as needed, documented with comments

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Turn-in:

All Source in a single .txt file NEATLY collected and presented

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Run the Quad codes 4 times- (2 algorithms, with and without trace) using the interpreter algorithm given, printing the final answers for the problem

Runs of each algorithm (sum scores, factorial) with **TRACE ON**, clear, neat, understandable

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Same runs (sum scores, factorial) with **TRACE OFF**, clear, neat, understandable

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TOTAL

145

NAME: