

# Homework 1: Lexical Analyzer \*

## CS 421 Compiler Design and Construction

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**Due:** September 11, 2022

With reference to the **Lexical Analyzer** implemented for the language **TUPLE**, let us, *the programmers*, elucidate some of the assumptions taken, conventions followed and references used. They are as follows:

- Some modifications were made to the given lexical specification - specified on **pg.2** of the assignment write-up. These changes are with respect to the **Keyword** and **Data Types** categories - upon examination of the test files, it was seen that the common language keywords and data types, **print**, **return** and **str** were not specified within the lexical specification thus, they were catered to as such per our own prerogative.
- With reference to entries within the symbol table, the decision was made not to include numeric constants such as: 2.3, -5, 10 etc. Per the current implementation of lexical analyzer, the symbol table only records identifiers.
- As of now, all arithmetic operations are dealt with as part of a single category. Delineation of arithmetic operators with respect to precedence<sup>1</sup> is not implemented.
- For purposes of better readability and ease in visual-inspection-based verification of the output of the lexical analyzer, the generated token stream is not written to the relevant **.out** file in a single line (i.e., a literal single stream). Rather, the generated **\*.out** files have the token stream printed out line-by-line. This is purely done to make verification of the generated stream easier.
- This reference proved useful when starting out with implementation of the analyzer.

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\*This document is with reference to Part 2 of the assignment.

<sup>1</sup>As discussed in the lecture session of 9<sup>th</sup> September.