Laboratory assignment-I; CS3075 Compiler Design Laboratory: Roll No:

1. Write a program using lex that copies the standard input to the standard output, except that it replaces each sequence of consecutive blanks and tabs by a single blank.

2. Write a lex program that adds line numbers to lines of text, printing new text to the standard output?

3. Write a lex program that convert all uppercase letters to lowercase, except for letters inside C-style comments?

4. Write a lex input file that will produce a program that counts characters, words, and lines in a text file and reports the counts. Define a word to be any sequence of letters and/or digits, without punctuation or spaces. Punctuation and spaces do not count as word.

5. Write a lexical analyzer as per Problem No 10, page no 539, Principle of Compiler Design, by A V Aho, J D Ullman, Narosa Publishing House

10. Write a lexical analyser that identifies tokens in a mini-BASIC language, the regular expressions for the tokens are described below.

keyword ⟶ END | FOR | GOSUB | GO TO | IF | LET | REM

keyword ⟶ RETURN | STEP | TO

var ⟶ letter digit | letter

const ⟶ sign digit digit*

sign ⟶ + | − | ∈

letter ⟶ A | B | C | ..... | Z

digit ⟶ 0 | 1 | 2 | ..... | 9

arith-op ⟶ | + | − | * | / | ↑

relop ⟶ | < | <= | > | >= | = | <>

line-end ⟶ cr

N.B. You can add extra features to your programs more generalized to claim that yours is the BEST.