

Assignment #1

Dated : 30-01-15

1. Show the output of various phases of compilation for the input:

a[index] = b+c

Given grammar:

Assign_exp \rightarrow subscript_exp = add_exp

subscript_exp \rightarrow exp [exp]

add_exp \rightarrow exp + exp

exp \rightarrow id | num

2. Draw the transition diagram for signed numbers and also give the architecture of lexical analyzer for the same. (Note : +523, -56.3E4, +6E4, -5.245, 2.34E-26, 24.53E+32)
3. Derive DFA for the given regular expression : **a|abb|a*b⁺**
4. a) Why is input buffering used in lexical analyser? Explain with an example, the advantage of buffer pairs over a single buffer?
b) Write a regular definition for single line and multi – line comments.
5. a) Explain with a neat diagram the roles of lexical analyser and parser.
b) Explain the lexical errors with an example.