(b) Is the grammar generated in (a) a LL(1) grammar? If it's not a LL(1) grammar, try to convert it into a LL(1) grammar?

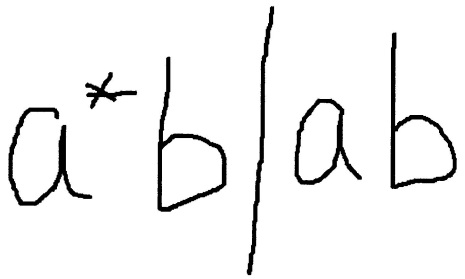
(c) To use the concept of selection set to explain why the grammar you generated in (b) is a LL(1) grammar.

(d) Write a C program for the top-down recursive parser of the LL(1) grammar generated in (b).

5. (12%) (a) To write a Lex-style regular expression to represent the syntax of the "Variable Name" in C language.
(b) Write a Lex Program that copies a C program, replacing all instance of int by double. In addition, please print out those replacements happen in which lines.

6. (8%) Please give two different strings which match the regular expression.
(1) [abc]d?
(2) x+y*z
(3) a{2,4}(b|c|d)a{2,4}
(4) [1-9]"."[0-9]*[1-9]

7. (20%) (a) Describe the language denoted by the following regular expressions.



(b) Construct nondeterministic finite automata for the regular expression above.