Consider the Grammar:

\[
\begin{align*}
\text{<program>} & \rightarrow \text{<stmts>} \\
\text{<stmts>} & \rightarrow \text{<assignment>} \mid \text{<assignment>} ; \text{<stmts>} \\
\text{<assignment>} & \rightarrow \text{id} := \text{<expr>} \\
\text{<expr>} & \rightarrow \text{<expr>} + \text{<expr>} \mid \text{<expr>} - \text{<expr>} \\
& \quad \mid \text{<expr>} * \text{<expr>} \mid \text{<expr>} / \text{<expr>} \mid (\text{<expr>}) \mid \text{<term>} \\
\text{<term>} & \rightarrow \text{id} \mid \text{const}
\end{align*}
\]

Tasks:

1. Transform the grammar (if needed) so that it is LL(1). Note that we assume all operations associate to the left and they have the usual precedence relation.
2. Construct tables for the FIRST, FOLLOW
3. Construct the Parsing Table
4. Write pseudocode (high level) for a table driven parsing program. Include basic error-handling using the blank cells of the table and the synch cells.

Make sure that you show ALL your work. Don’t just write the answers to the questions. You will lose points. Show all the work you did to come up with them.

Instructions. You should hand the solutions of the above exercises with a cover page that should contain only: (i) your name, (ii) the class number “CSE 244”, (iii) the semester “Fall 2003”, (iv) the homework number “Homework #3”. The cover page must be written in a word-processor. The remaining of this homework may be written by hand.