REVIEW

1. Concepts

- The phases of a compiler
- Analysis part, synthesis part
- Front end, back end, passes, compiler, interpreter
- NFA, DFA
- The task of each phase of a compiler
- CFG, rightmost /leftmost derivation, parsing tree
- bottom-up and top-down parsing
- Left recursion removal, left factoring
- conditions of LL(1), LR(0), SLR(1), LR(1), LALR(1) grammar

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2. Write regular expression; Write CFG.

3. Convert a regular expression to NFA (use Thompson's Construction), convert to DFA (use Subset Construction), minimizing the DFA.

4. Write rightmost or leftmost derivation, draw parse.

5. Show the grammar is ambiguous, remove the ambiguity.

6. Given the grammar, write the recursive-descent parser

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7. Given the grammar, ……

- ✓Left factor, remove the left recursion
- ✓Construct First and Follow sets
- ✓Show the grammar is LL(1) or not
- ✓Construct the LL(1) table
- ✓Show the parsing steps

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8. Given the grammar, ……

- ✓Construct the DFA of LR(0) or LR(1) items;
- ✓Construct LR(0) or SLR(1) or LR(1) or LALR(1) parsing table.
- ✓Show the grammar is LR(0)(or SLR(1) or LR(1) or LALR(1)) or not? Describe the conflict.
- ✓Show the parsing steps.

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