

Homework Assignment for Compiler, Spring 2024

Deadline: May 22nd, 23:59

Apply the specified parsing method, draw the corresponding automata and parsing tables, and show the detailed processes. If any functions are needed, such as FIRST, FOLLOW, provide them as well. If the specified parsing method does not work for the grammar, show the detailed process and explain why. Afterward, select and apply any parsing method that can analyze the grammar, and redo your parsing.

1. LL(1)

P1: $S \rightarrow AB \mid eDa$

P2: $A \rightarrow ab \mid c$

P3: $B \rightarrow dC$

P4: $C \rightarrow eC \mid \epsilon$

P5: $D \rightarrow fD \mid \epsilon$

2. LR(0)

P1: $S \rightarrow Aa \mid bAc \mid Bc \mid bBa$

P2: $A \rightarrow d$

P3: $B \rightarrow d$

3. SLR

P1: $S \rightarrow AaAb$

P2: $A \rightarrow bA$

P3: $A \rightarrow d$

P4: $S \rightarrow BbBa$

P5: $B \rightarrow d$

4. LR(1)

P1: $S \rightarrow a+x+E$

P2: $E \rightarrow a+E$

P3: $E \rightarrow a$