

提交说明:

(1) 对各种图或表格, 大家可以纸上写好, 贴到相应的地方.

(2) 提交时, 请提交 pdf 文件.

第五次练习:

1. 构造下面文法的 LL(1)分析表, 并写出构造过程.

$D \rightarrow TL$

$T \rightarrow \text{int} / \text{real}$

$L \rightarrow \text{id } R$

$R \rightarrow , \text{id } R / \varepsilon$

(1)

$\text{First}(D) = \text{First}(T) = \{\text{int}, \text{real}\}$	$\text{Follow}(D) = \{\#\}$
$\text{First}(L) = \{\text{id}\}$	$\text{Follow}(T) = \{\text{id}, \#\}$
$\text{First}(R) = \{, , \varepsilon\}$	$\text{Follow}(L) = \{\#\}$ $\text{Follow}(R) = \{\#\}$

  

	int	real	id	,	#
D	$D \rightarrow TL$	$D \rightarrow TL$			
T	$T \rightarrow \text{int}$	$T \rightarrow \text{real}$			
L			$L \rightarrow \text{id } R$		
R				$R \rightarrow , \text{id } R$ $R \rightarrow \varepsilon$	

2. 下面文法是否为 LL(1)文法, 请说明理由.

$S \rightarrow AB \mid PQx$

$A \rightarrow xy$

$B \rightarrow bc$

$P \rightarrow dP \mid \varepsilon$

$Q \rightarrow aQ \mid \varepsilon$

2.

$\text{First}(S) = \text{First}(A) \cup \text{First}(P) = \{x, d, \varepsilon\}$	$\text{Follow}(S) = \{\#\}$
$\text{First}(A) = \{x\}$	$\text{Follow}(A) = \{b, \#\}$
$\text{First}(B) = \{b\}$	$\text{Follow}(B) = \{\#\}$
$\text{First}(P) = \{d, \varepsilon\}$	$\text{Follow}(P) = \{a, \#, x\}$
$\text{First}(Q) = \{a, \varepsilon\}$	$\text{Follow}(Q) = \{x\}$

  

$S \rightarrow AB \mid PQx$     $\text{First}(A) \cap \text{First}(P) = \{x\} \neq \emptyset$     $\therefore$  不是 LL(1) 文法

$P \rightarrow dP \mid \varepsilon$

