

## Quiz #6 Exercise

Transform the following grammar into LL(1).

```
S      → Stmt $
Stmt   → if Expr then Stmt eles Stmt endif
        | if Expr then Stmt endif
        | other
```

### 一、LL(1)文法的判别条件

若一个文法满足以下条件，则称该文法G为LL(1)文法：

(1) 文法不含左递归；

(2) 对于每个非终结符A的各个候选式的终结首符号集两两不相交。即，如果 $A \rightarrow \alpha_1 | \alpha_2 | \dots | \alpha_n$ ，则 $FIRST(\alpha_i) \cap FIRST(\alpha_j) = \Phi$ ，其中 $1 \leq i, j \leq n$ ，且 $i \neq j$ 。

(3) 对于文法中每个非终结符A，若它某个候选式的终结首符号集包含 $\epsilon$ ，则 $FIRST(A) \cap FOLLOW(A) = \Phi$

[https://blog.csdn.net/qq\\_42583263](https://blog.csdn.net/qq_42583263)

- 1 S → Stmt \$
- 2 Stmt → if Expr then Stmt V1
- 3     | other
- 4 V1 → eles Stmt endif
- 5     | endif

Predict Set						
Rule Number	A	X1...Xm	First(X1...Xm)	Derives empty	Follow(A)	answer
1	S	Stmt \$	if, other	No		if, other
2	Stmt	if Expr then Stmt V1	if	No		if
3		other	other	No		other
4	V1	eles Stmt endif	eles	No		eles
5		endif	endif	No		endif