2/6/23, 10:00 AM Parsing conflicts



## **8.5. Parsing Conflicts**

Let's build the top-down parsing table for a slightly different grammar.

$$1. L \rightarrow \varepsilon$$

$$2. L \rightarrow N$$

$$3. N \rightarrow E$$

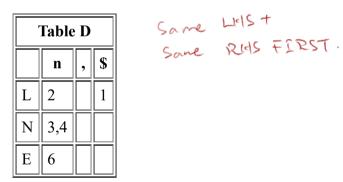
$$4. N \rightarrow E, N$$

$$5. E \rightarrow \mathbf{n}$$

The FIRST and FOLLOW sets for that grammar are:

X	L	N	E
FIRST(X)	$\{\mathbf{n}, \mathbf{\varepsilon}\}$	{ <b>n</b> }	{ <b>n</b> }
FOLLOW(X)	<b>{\$</b> }	<b>{\$</b> }	{ <b>,, \$</b> }

The parsing table is as follows.



The algorithm adds two productions to one of the cells in the table. When that happens, it is called a *parsing conflict* 

The problem is that the parser cannot know whether to use production  $N \to E$  or  $N \to E$ , N, based on a single-token lookahead. That decision depends on whether the E is followed by a comma, and that would require a longer lookahead.

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Top/Top-down parsing/Conflicts