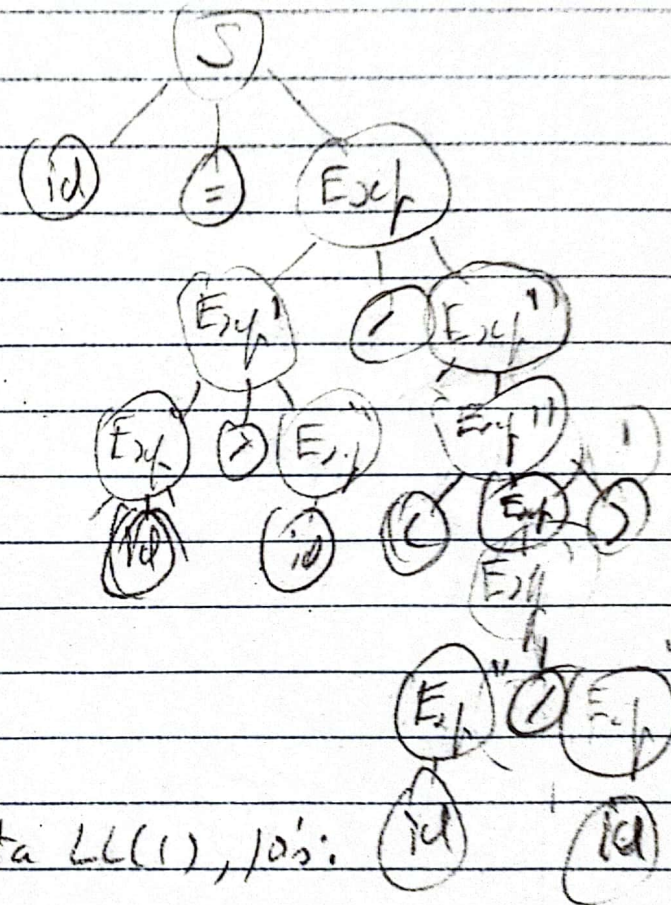


$S \rightarrow ? \text{Exp}$
 $\vee ! \text{Exp}$
 $\vee id = \text{Exp}$

$e = a \times b / (a / b)$

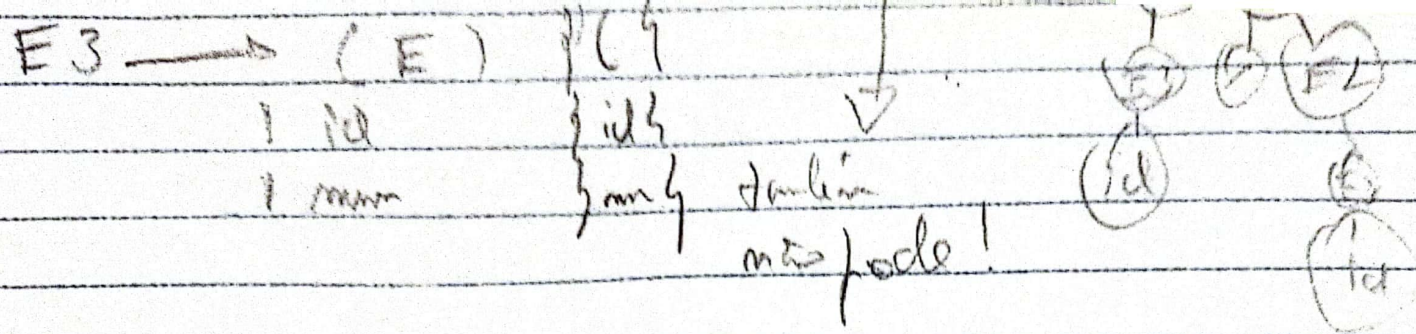
$\text{Exp} \rightarrow \text{Exp}' + \text{Exp}'$
 $\vee \text{Exp}' - \text{Exp}'$
 $\vee \text{Exp}'$
 $\text{Exp}' \rightarrow \text{Exp}'' \times \text{Exp}''$
 $\vee \text{Exp}'' / \text{Exp}''$
 $\vee \text{Exp}''$
 $\text{Exp}'' \rightarrow (\text{Exp})$
 $\vee \text{Num}$
 $\vee id$



Gramática válida, mas não é LL(1), pois:

$\text{em } \text{Exp}' \rightarrow \text{Exp}'' + \text{Exp}'' \quad \text{first}(\text{Exp}')$
 $\vee \text{Exp}' - \text{Exp}'' \quad \text{first}(\text{Exp}')$
 $\vee \text{Exp}' \quad \text{first}(\text{Exp}')$

não pode ser



$S \rightarrow ? E \{ \}$ ✓ $E \rightarrow E_2 E'$ ✓ $E' \rightarrow + E E'$ ✓ $E_2 \rightarrow E E'$ ✓
 $\{E\}$ ✓ $\{E E'\}$ ✓
 $\{id = E \{id\}\}$ $\{E \{ \}$

$E_2 \rightarrow \times E_2 E'$ ✓ $E_3 \rightarrow (E)$ ✓
 $\{E_2 E'\}$ ✓ $\{id\}$ ✓
 $\{E \{ \}$ ✓ $\{mn\}$ ✓

Dado m ! $G = (\{S, E, E', E_2, E'_2, E_3\},$
 $\{ \text{terminal symbols} \},$
 $\{ \text{non-terminal symbols} \},$
 $\{ \text{start symbol} \})$