

Recitation -3

CSE 340

Parse Trees

$S \rightarrow aSb \mid A$

$S \rightarrow bSa \mid B$

$A \rightarrow abA \mid ab$

$B \rightarrow baB \mid ba$

Is the grammar ambiguous?

Derivations

- Left most derivation

$S \rightarrow B$

$\rightarrow bSa$

$\rightarrow bAa$

$\rightarrow baba$

Can also be derived as:

$S \rightarrow B$

$\rightarrow baB$

$\rightarrow baba$

Derivations

- Right Most derivations

Expression Grammar

$\text{Expr} \rightarrow \text{Expr} + \text{Expr}$

$\text{Expr} \rightarrow \text{Expr} * \text{Expr}$

$\text{Expr} \rightarrow \text{NUM}$

Ambiguous grammar may have more than one left or right derivations

First and Follow sets