Show the following grammer is ambigous.

$S \rightarrow AB \mid aaB$

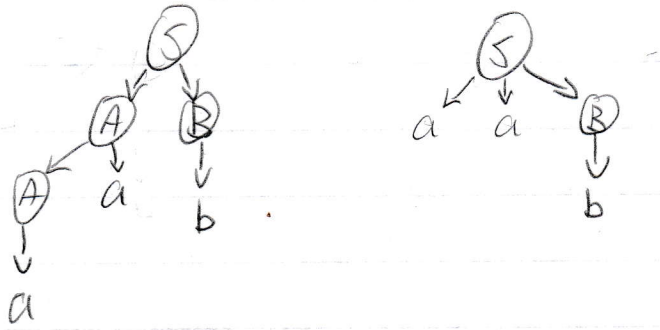
$A \rightarrow a \mid Aa$

$B \rightarrow b$

* possible strings = $a^n b$, $n \geq 1$

• For string aab

1) leftmost: $S \Rightarrow AB \Rightarrow AaB \Rightarrow aaB \Rightarrow aab$
2) leftmost: $S \Rightarrow aaB \Rightarrow aab$



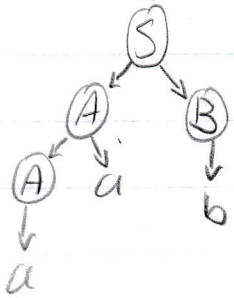
• Unambigous equivalent grammer

$S \rightarrow AB$

$A \rightarrow Aa \mid a$

$B \rightarrow b$

* possible strings = $a^n b$, $n \geq 1$



• For string aab →

$S \Rightarrow AB \Rightarrow AaB \Rightarrow aaB \Rightarrow b$