

10/29/18
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| | | |
|---|---|--|
| $S \rightarrow A$ | $S \rightarrow \bar{E}$ | $S_0 \rightarrow \bar{E}$ |
| $S \rightarrow B$ | $A \rightarrow aB$ | $S \rightarrow AaB$ $S \rightarrow aB$ → on step 1 $S \rightarrow Aa$ $S \rightarrow a$ |
| $A \rightarrow \bar{E}$ | $B \rightarrow BB$ | |
| $B \rightarrow \bar{E}$ | $A \rightarrow Aa$ | |
| $A \rightarrow AaB$ | $B \rightarrow BA$ | |
| $B \rightarrow BBA$ | $A \rightarrow a$ | |
| $S_0 \rightarrow S$ | $B \rightarrow b$ | |

↑ after step 0

$A \rightarrow B$? If we have rule $B \rightarrow u$
we add a new rule $A \rightarrow u$

$S \rightarrow A$ $A \rightarrow (AaB) = u$
 $S \rightarrow$

$X \rightarrow Y$

Chomsky normal form: $S_0 \rightarrow \epsilon$
if S_0 is starting variable

$A \rightarrow a$ variable \rightarrow term. symbol
 $A \rightarrow BC$ var. \rightarrow two variables

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$$S \rightarrow BbA$$

$$S_0 \rightarrow AaB$$

$$S_0 \rightarrow BbA$$

$$S \rightarrow Bb$$

$$S_0 \rightarrow aB$$

$$S_0 \rightarrow Bb$$

$$S \rightarrow bA$$

$$S_0 \rightarrow Aa$$

$$S_0 \rightarrow bA$$

$$S \rightarrow b$$

$$S_0 \rightarrow a$$

$$S_0 \rightarrow b$$

~~S~~ S_0

cat

x_i

~~x_i~~

V_a

x^2

~~x^2~~

~~V_{ab}~~

V_{ab}