

Create a CFG for  $L = \{ w \in \{a, b\}^* / w \text{ is a palindrome} \}$ .

CFG

$$G = ( V, \Sigma, R, S )$$

$$\Sigma = \{ a, b \}$$

$$V = \Sigma \cup \{ S \}$$

$$R = \{$$

$$S \rightarrow aSa$$

$$S \rightarrow bSb$$

$$S \rightarrow \epsilon$$

$$S \rightarrow a$$

$$S \rightarrow b$$

$$\}$$