

A phrase structure grammar is a set of rewriting or transformation rules of the form $\varphi \rightarrow \psi$, with φ and ψ strings of symbols.

Example. The grammar with rules

$$\begin{aligned} S &\rightarrow AB \\ A &\rightarrow C \\ CB &\rightarrow Cb \\ C &\rightarrow A \end{aligned}$$

provides the derivation

$$D = (S, AB, CB, Cb, ab)$$

which has a diagram structure.