

# Syntax

$$S \rightarrow () \mid (S) \mid SS$$

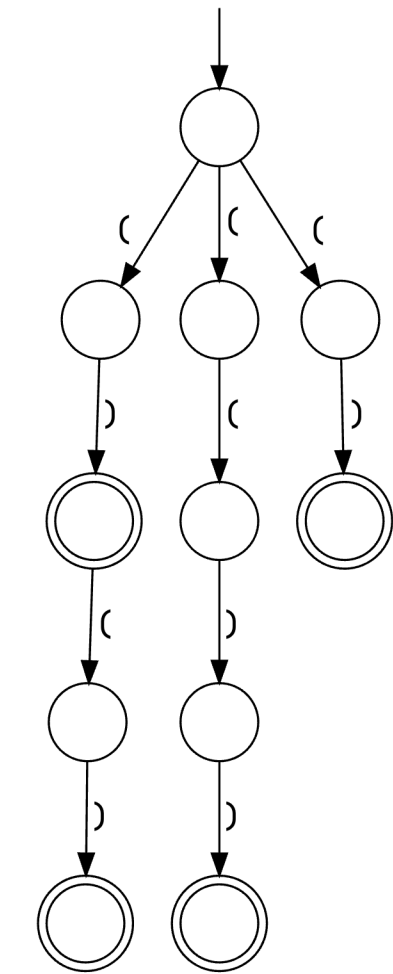
## CNF grammar

$$\begin{array}{ll} S \rightarrow LR & F \rightarrow SR \\ S \rightarrow LF & S \rightarrow SS \\ L \rightarrow ( & R \rightarrow ) \end{array}$$

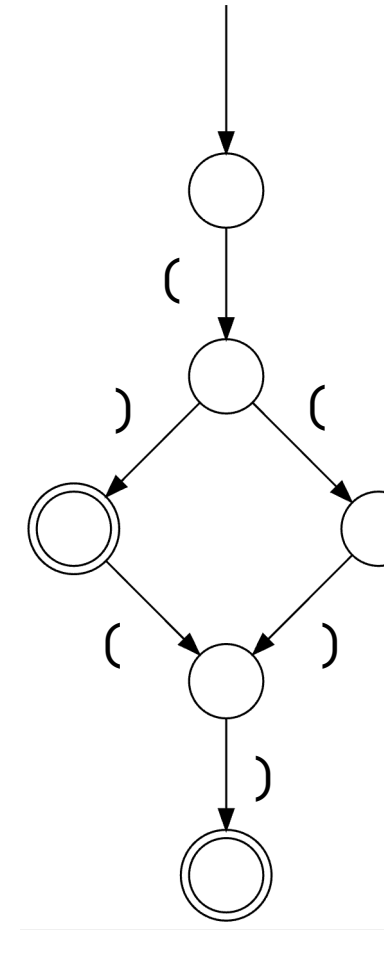
## CNF $n$ -grammar

$$\begin{array}{ll}
S \rightarrow q_{00}Lq_{10} \ q_{10}Rq_{31} & \\
S \rightarrow q_{00}Lq_{21} \ q_{21}Rq_{31} & q_{10}Rq_{31} \rightarrow ) \\
S \rightarrow q_{00}Lq_{01} \ q_{01}Fq_{31} & q_{11}Rq_{21} \rightarrow ) \\
S \rightarrow q_{00}Lq_{10} \ q_{10}Fq_{31} & q_{20}Lq_{21} \rightarrow ( \\
S \rightarrow q_{00}Lq_{10} \ q_{10}Rq_{20} & q_{20}Lq_{30} \rightarrow ( \\
S \rightarrow q_{00}Sq_{20} \ q_{20}Sq_{31} & q_{10}Rq_{20} \rightarrow )
\end{array}$$
$$\begin{array}{ll}
q_{20}Sq_{31} \rightarrow q_{20}Lq_{21} & q_{21}Rq_{31} \rightarrow ) \\
q_{20}Sq_{31} \rightarrow q_{20}Lq_{30} & q_{30}Rq_{31} \rightarrow ) \\
q_{00}Sq_{20} \rightarrow q_{00}Lq_{10} & q_{10}Rq_{20} \rightarrow ( \\
q_{01}Fq_{31} \rightarrow q_{01}Sq_{21} & q_{21}Rq_{31} \rightarrow ( \\
q_{01}Sq_{21} \rightarrow q_{01}Lq_{11} & q_{11}Rq_{21} \rightarrow ) \\
q_{10}Fq_{31} \rightarrow q_{10}Sq_{21} & q_{21}Rq_{31} \rightarrow ) \\
q_{10}Sq_{21} \rightarrow q_{10}Lq_{11} & q_{11}Rq_{21} \rightarrow ) \\
q_{00}Sq_{31} \rightarrow q_{00}Lq_{10} & q_{10}Rq_{31} \rightarrow ) \\
q_{00}Sq_{31} \rightarrow q_{00}Lq_{21} & q_{21}Rq_{31} \rightarrow )
\end{array}$$

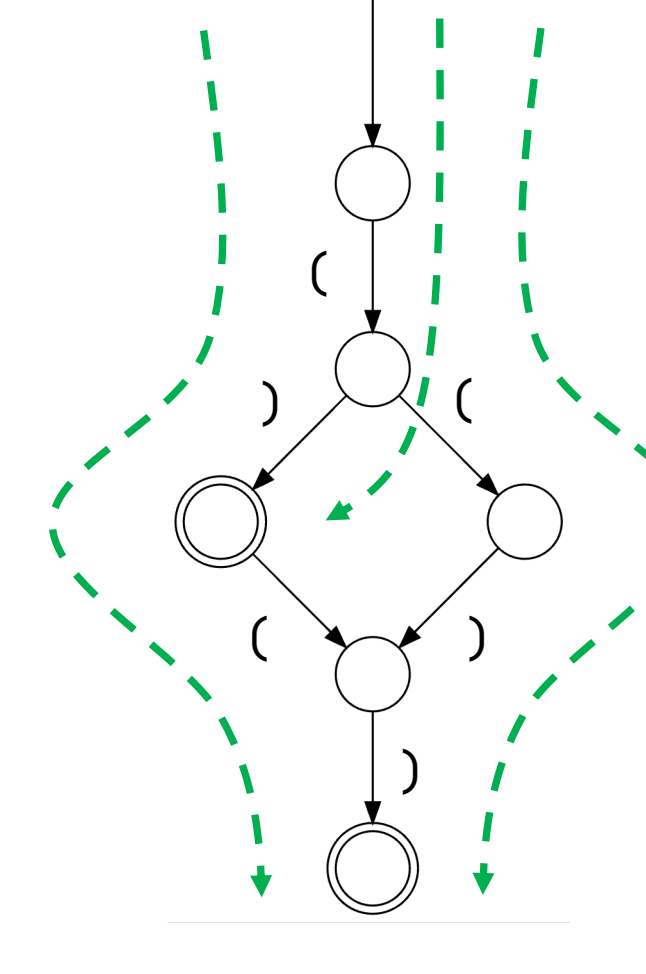
## NFA



# DFA\*



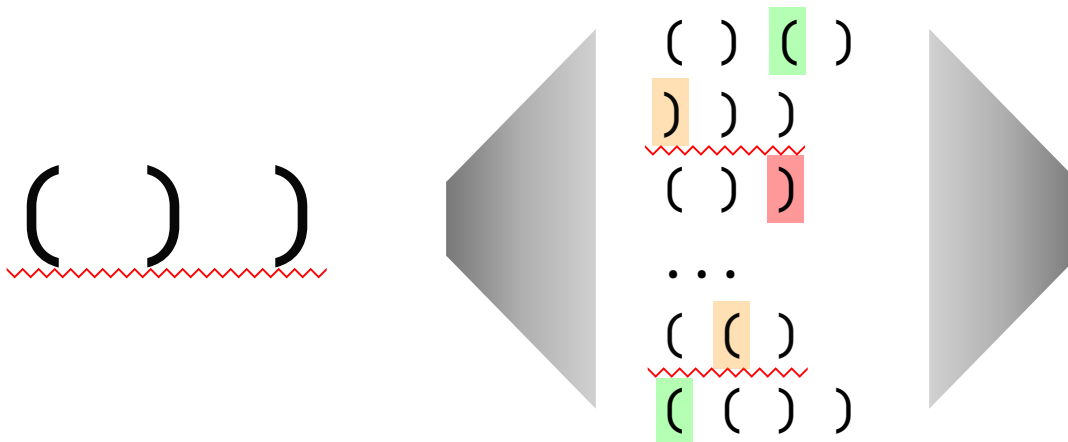
# Decoder



## Ranked repairs

1. ( )
2. ( ) ( )
3. ( ( ) )

## Code edits



## Edit automaton

