DFA TO CFG

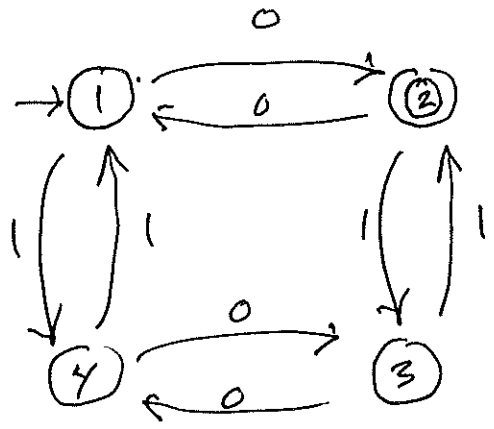
V_i: FOR EACH q_i OF DFA

RULE $V_i \rightarrow a V_j$ IF $\delta(q_i, a) \rightarrow q_j$

RULE $V_i \rightarrow \epsilon$ IF $q_i \in F$

MAKE V_0 START VARIABLE WHERE q_0 IS START STATE.

EXAMPLE



ODD #0s

EVEN #1s

$V_1 \rightarrow 0V_2$

$V_1 \rightarrow 1V_4$

$V_2 \rightarrow 0V_1$

$V_2 \rightarrow 1V_3$

$V_3 \rightarrow 0V_4$

$V_3 \rightarrow 1V_2$

$V_4 \rightarrow 0V_3$

$V_4 \rightarrow 1V_1$

$V_2 \rightarrow \in$

$V_1 \rightarrow 0V_2 \mid 1V_4$

$V_2 \rightarrow 0V_1 \mid 1V_3 \mid \in$

$V_3 \rightarrow 0V_4 \mid 1V_2$

$V_4 \rightarrow 0V_3 \mid 1V_1$