Proof:

(PDA) $P = (Q, \Sigma, \Gamma, \delta, q_0, \{q_{accept}\})$ Convert PDA to CFG

Variables of G (grammar) are: $\{A_{pq} \mid p,q \text{ is in } Q\}$

Start variable is $A_{q0,qaccept}$

G's rules:

For each p,q,r,s in Q, t in Γ, and a,b in Σ,

if $\delta(p,a,\varepsilon)$ contains (r,t) and $\delta(s,b,t)$ contains (q,ε) then
ADD RULE: $A_{pq} \rightarrow aA_{rs}b$

For each p,q,r in Q
ADD RULE: $A_{pq} \rightarrow A_{pr}A_{rq}$

For each p in Q
ADD RULE: $A_{pp} \rightarrow \varepsilon$