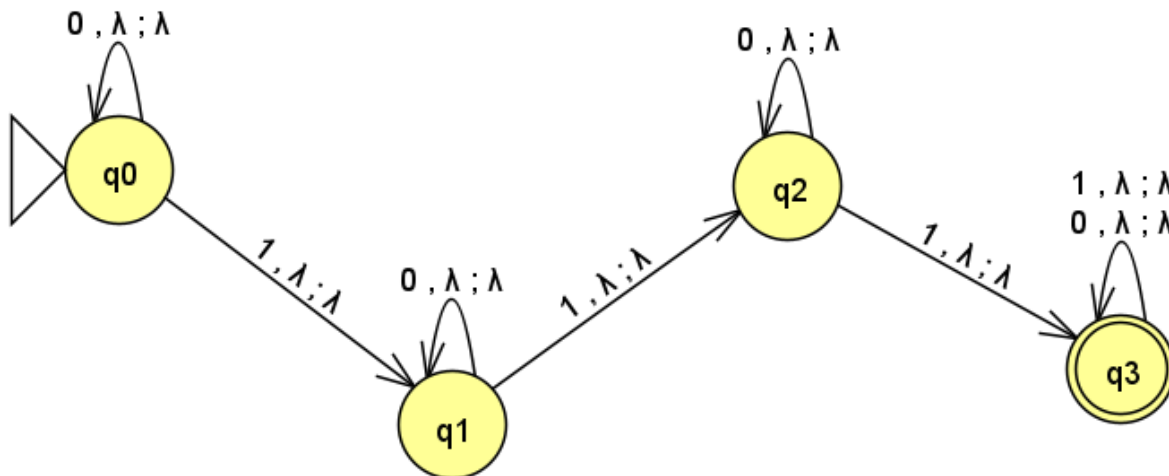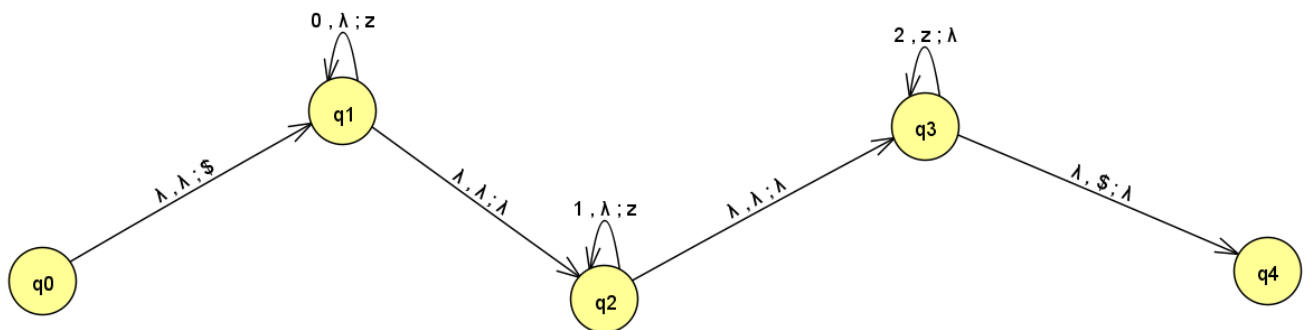Use JFLAP to draw the state diagram of the PDA (pushdown automata) that recognizes the following languages.
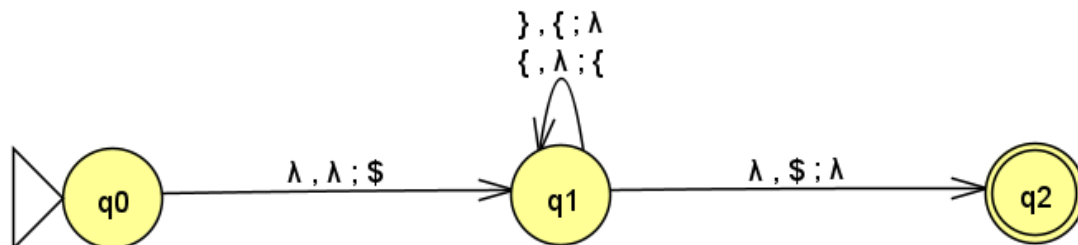
1. [5 pts] L = {ω ∈ {0, 1}*| ω contains at least three 1s}

2. [5 pts] L = {0^i 1^j 2^k | i, j, k ≥ 0 and i + j = k}

3. [5 pts] L = {all string of properly balanced left and right brackets}. Such as { }, { }{ }, {{ }}, {{ }{ }}, etc.

4. [5 pts] L = {ω ∈ {0, 1}⋆| | ω *has twice as many* 1*'s as* 0*'s*}