Petrinet to Reachability Graph, State Space Diagram & Deadlock Detection

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Objective:

- Generate a state space diagram for a Petrinet
- Given initial marking, get a reachability graph for the Petrinet
- Check for deadlocked state

Input Format:

- File input for petrinet:
  - 1st line contains ⟨ P, T ⟩ where, P = number of places, T = number of transition
  - Subsequent line contains each connection in the form of ⟨ px tx ⟩ (place to transition) or ⟨ tx px ⟩ (transition to place)

  For ex. for a simple sequence petrinet, input will be:
  2 1
  p1 t1
  t1 p2
- Token Input in the form of ⟨ Px . . . py ⟩, where Px denotes marking at place P.

Output Format:

- Dot and pdf file for petrinet.
- Dot and pdf file for reachability graph.
- Dot and pdf file for state space diagram.
- Console input of deadlocked marking.

Tools Used:

- Python
- GraphViz