



# Automata Formal Languages & Logic

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Department of Computer Science & Engineering

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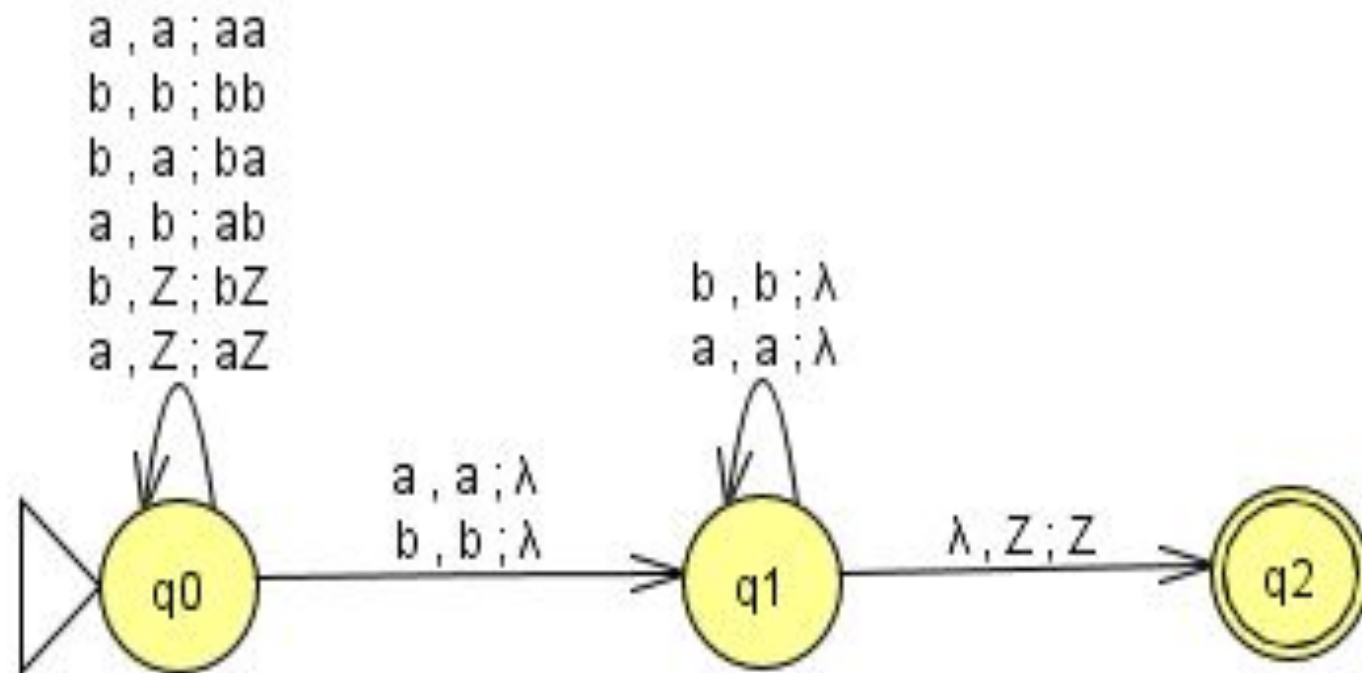
## Unit 3

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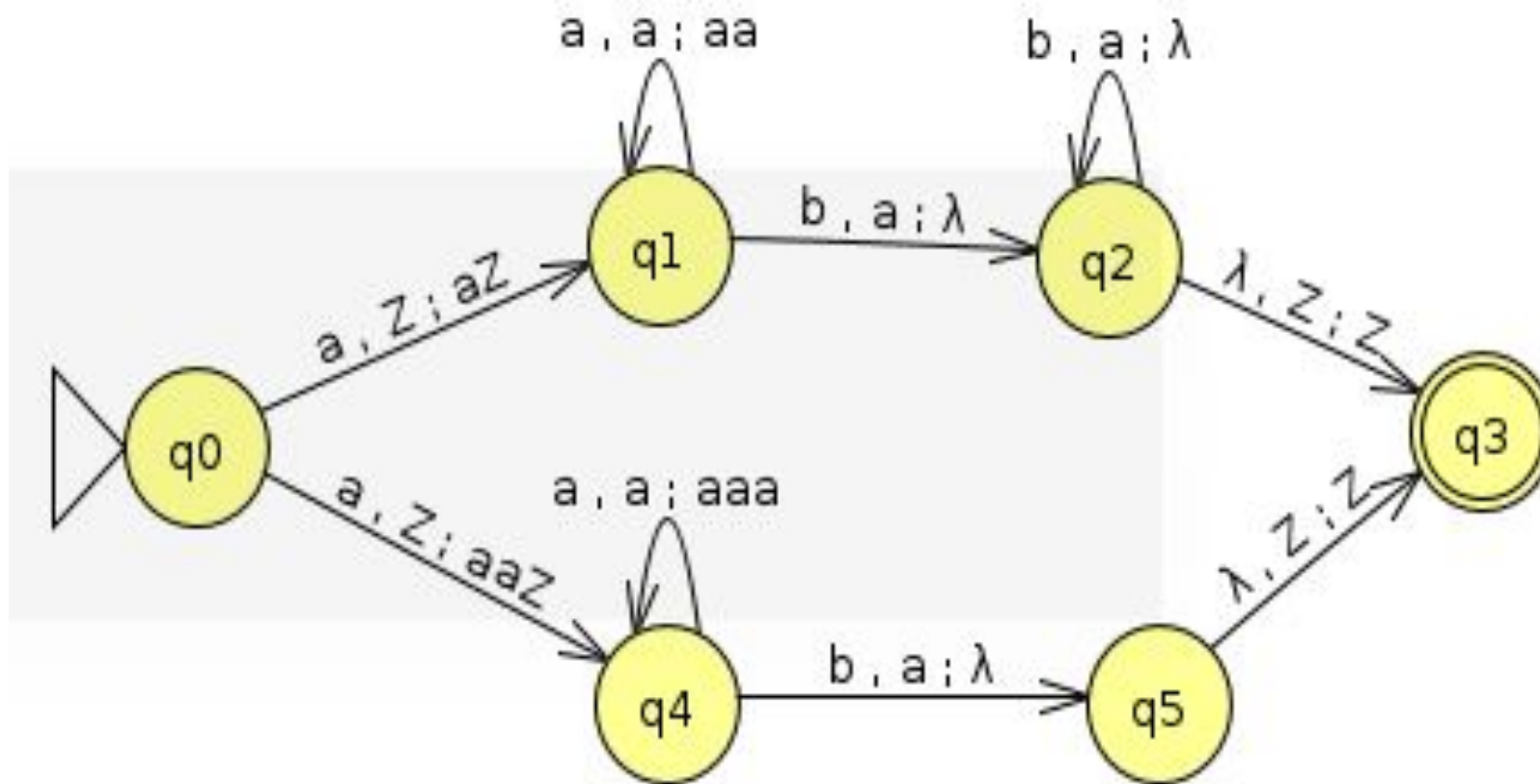
1. Construct PDA for language  $L = \{ww^R \mid w \in \{a,b\}^*\}$

**Solution :**



### 2. Construct PDA for language

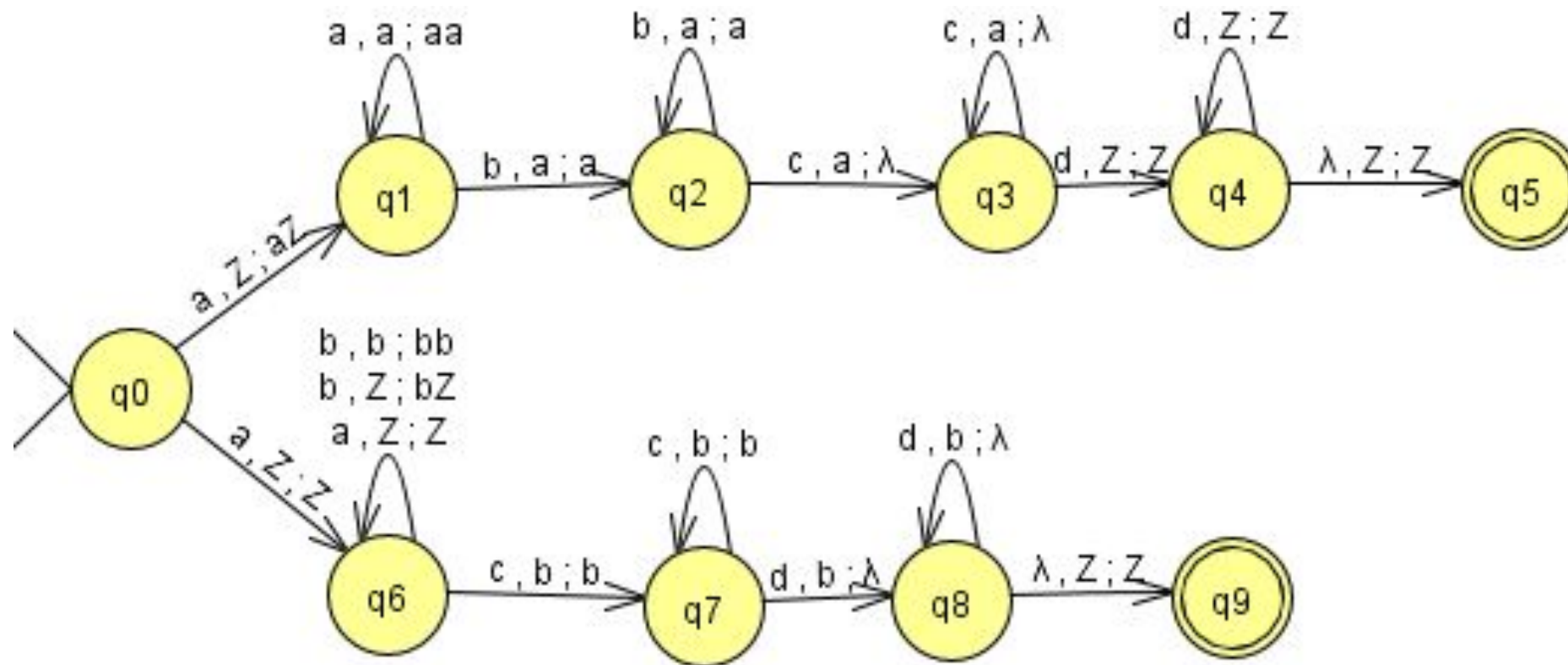
$$L = \{a^n b^n \mid n \geq 1\} \cup \{a^n b^{2n} \mid n \geq 1\}$$



### 3. Construct PDA for language

$$L = \{a^i b^j c^k d^l \mid i=k \text{ or } j=l, i, j, k \geq 1\}$$

**Solution :**





# THANK YOU

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