

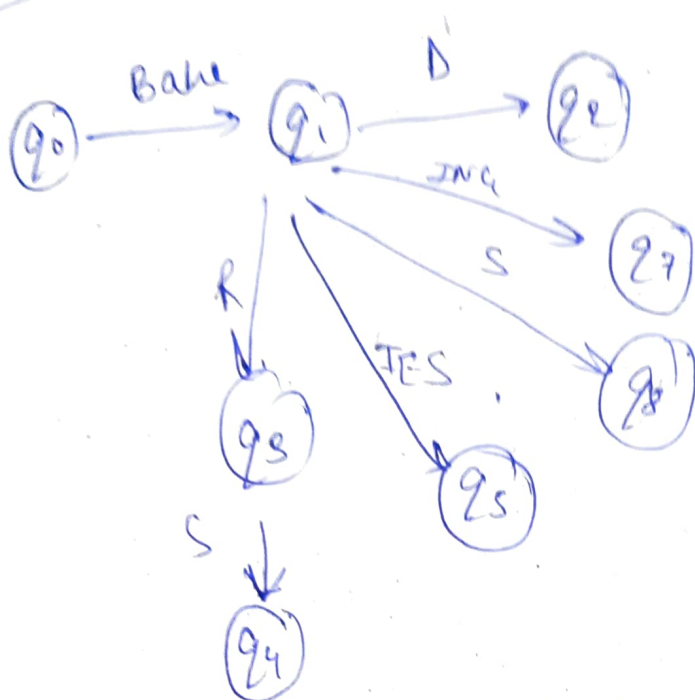
## Assignment - 7

States & Transition.

1. Start state ( $q_0$ ) - beginning of the word.
2. Root acceptance state ( $q_1$ ) - accepts "Bake".
3. Past tense state ( $q_2$ ) - Accepts 'd' from 'Baked'.
4. Agentive affix state ( $q_3$ ) - accepts 'R' to form 'Baker'.
5. Plural suffix state ( $q_4$ ) - accepts 's' to form 'Bakers'.
6. Nominalization state ( $q_5$ ) - accepts "RY" to form "Bakery".
7. Pluralization state ( $q_6$ ) - accept "IES" to form "Bakeries".
8. Present participle state ( $q_7$ ) - accepts 'Ing' to form 'Baking'.
9. Third person singular state ( $q_8$ ) - accepts 's' to form 'Bakes'.

# FSA Representation

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- The automata accepts the word :  
bake, baked, baker, bakers, bakery,  
bakeries, bakes, baking.
- It rejects words that do not follow  
these patterns.