State Diagrams

Part b: Designing Phone Lattices

Ian Ludden

Learning Objectives

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- Design a phone lattice for a given set of words.

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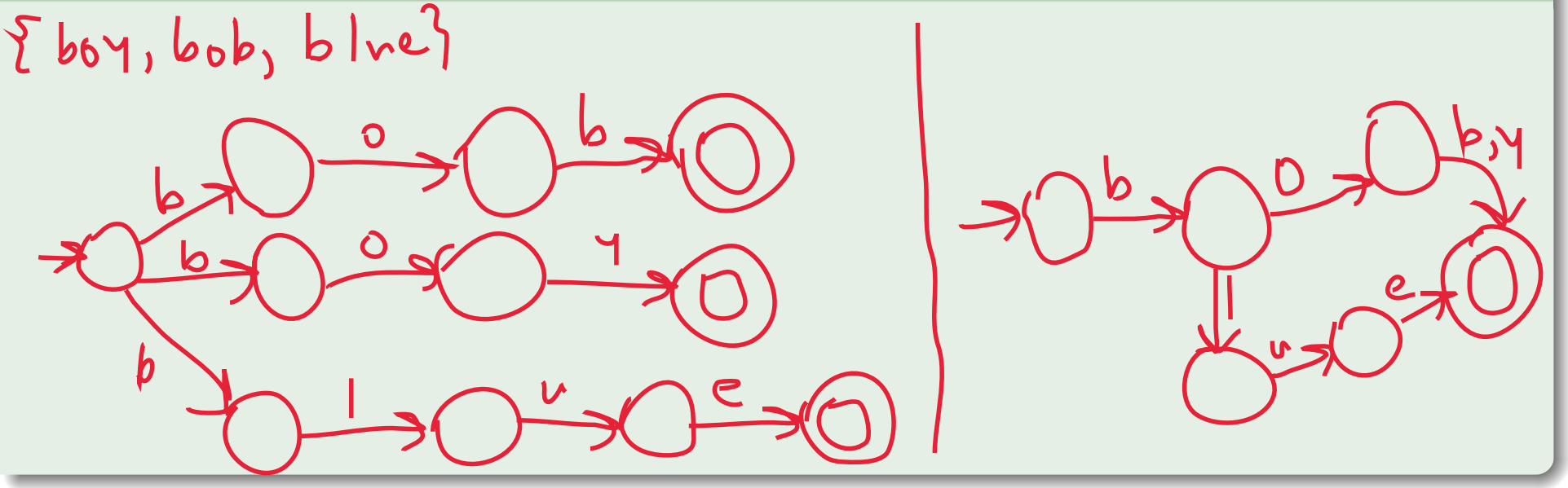
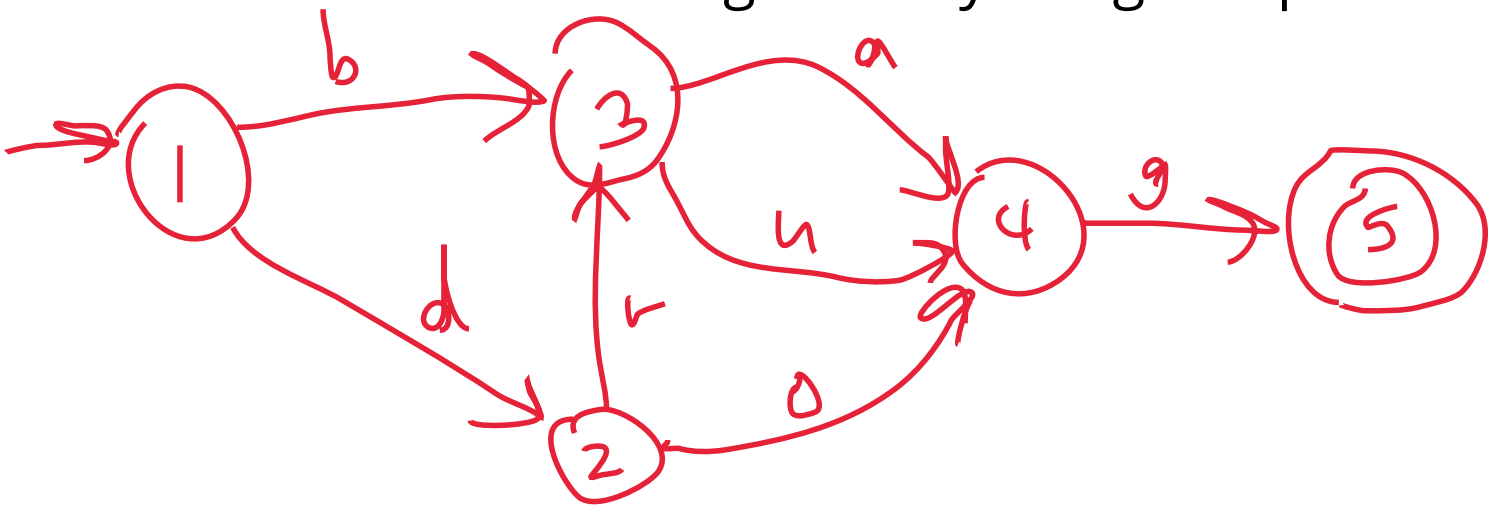
Example 1: Consolidating a Phone Lattice

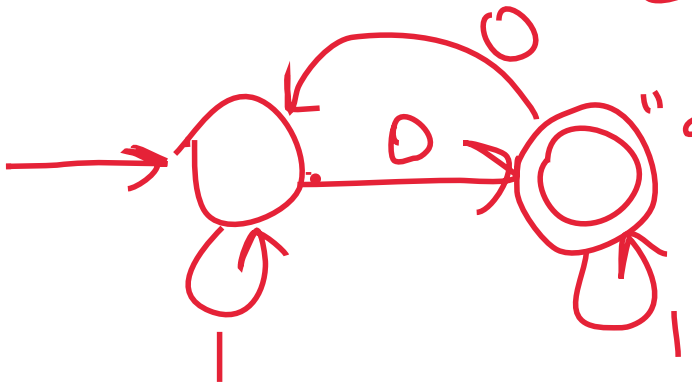


Example 2: Identifying the Set of Words

What is the set of words recognized by the given phone lattice?



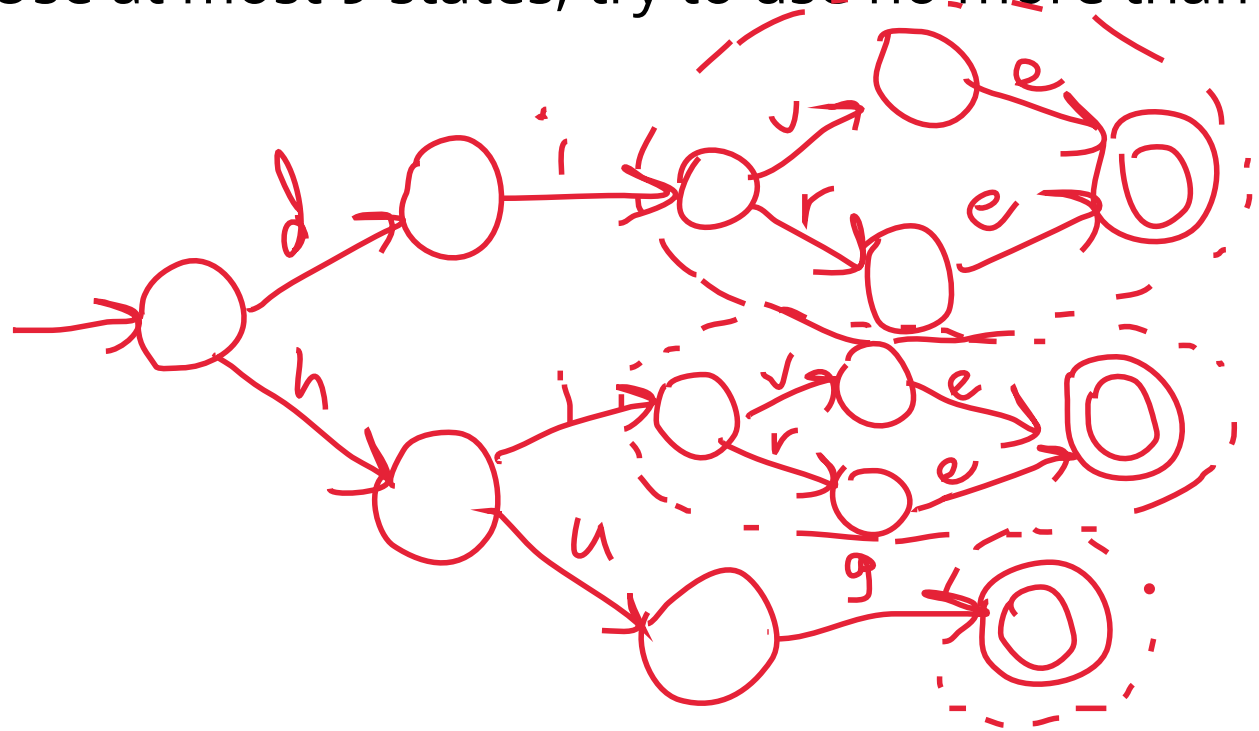
{bag, bug, dog, drag, drug}

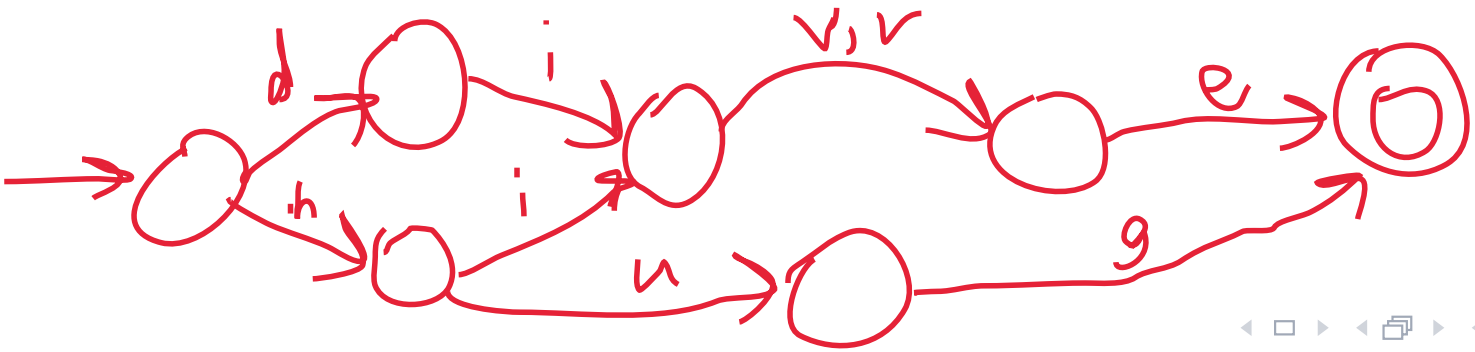


$\{s \in \{0,1\}^* : s$ has an odd # zeros$\}$

Example 3: Designing a Phone Lattice

Construct a phone lattice for the words {`dive`, `dire`, `hive`, `hire`, `hug`}.
Use at most 9 states; try to use no more than 7 states.





Recap: Learning Objectives

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- Define a phone lattice.
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- Design a phone lattice for a given set of words.