# State Diagrams

Part b: Designing Phone Lattices

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By the end of this lesson, you will be able to:

• Define a phone lattice.

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- Identify the words recognized by a given phone lattice.

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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?

## 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

- Define a phone lattice.
- Identify the words recognized by a given phone lattice.
- Design a phone lattice for a given set of words.