📘 5. Trie (Prefix Tree)

◆ **Definition:**

A **Trie** is a special **tree-like data structure** used to store a **dynamic set of strings** where keys share common prefixes.

◆ **Key Operations:**

- **Insert a word**

- **Search a word**

- **Delete a word (optional)**

◆ **Use Cases:**

- Auto-complete

- Spell checking

- IP routing

- Word dictionary lookup

◆ **Time Complexity:**

- Insert/Search: **O(L)** where L is the length of the word
-