

**You**

I want to implement a simple chatbot and hardcode bot responses. In order to hardcode the responses, I want to use Trie class with a modification, instead of characters it will have String messages at each node. Can you write me code for that Trie?

**ChatGPT**

Sure, here's an example implementation of a Trie class in Java with String messages at each node:

java

Copy code

```
import java.util.HashMap;
import java.util.Map;

public class Trie {
    private TrieNode root;

    public Trie() {
        root = new TrieNode();
    }

    // Insert a message into the Trie
    public void insert(String[] words, String message) {
        TrieNode current = root;
        for (String word : words) {
            current.children.putIfAbsent(word, new TrieNode());
            current = current.children.get(word);
        }
        current.message = message;
    }

    // Search for a message based on the provided input words
    public String search(String[] words) {
        TrieNode current = root;
        for (String word : words) {
            if (!current.children.containsKey(word)) {
                return null;
            }
            current = current.children.get(word);
        }
        return current.message;
    }

    private static class TrieNode {
        Map<String, TrieNode> children;
        String message;

        public TrieNode() {
            children = new HashMap<>();
            message = null;
        }
    }
}
```

```

    }
}

// Example usage
public static void main(String[] args) {
    Trie trie = new Trie();
    trie.insert(new String[]{"hi"}, "Hello there!");
    trie.insert(new String[]{"how", "are", "you"}, "I'm doing well, thank you!");
    trie.insert(new String[]{"bye"}, "Goodbye!");

    String[] input1 = {"hi"};
    String[] input2 = {"how", "are", "you"};
    String[] input3 = {"bye"};
    String[] input4 = {"hello"};

    System.out.println(trie.search(input1)); // Output: Hello there!
    System.out.println(trie.search(input2)); // Output: I'm doing well, thank you
    System.out.println(trie.search(input3)); // Output: Goodbye!
    System.out.println(trie.search(input4)); // Output: null (not found)
}
}

```

This implementation allows you to insert messages into the Trie based on an array of words and search for messages based on an array of input words. Each node in the Trie contains a map of children nodes and a message associated with it.

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