TRIE

```java
package DAY_7;

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

class TrieNode {
    Map<Character, TrieNode> children;
    boolean isEndOfWord;

    public TrieNode() {
        children = new HashMap<>();
        isEndOfWord = false;
    }
}

public class Trie {
    private TrieNode root;

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

    public void insert(String word) {
        TrieNode current = root;
        for (char ch : word.toCharArray()) {
            current = current.children.computeIfAbsent(ch, c -> new TrieNode());
        }
        current.isEndOfWord = true;
    }

    public boolean startsWith(String prefix) {
        TrieNode current = root;
        for (char ch : prefix.toCharArray()) {
            current = current.children.get(ch);
            if (current == null) {
                return false;
            }
        }
        return true;
    }

    public static void main(String[] args) {
        Trie trie = new Trie();
        trie.insert("apple");
        trie.insert("app");
        trie.insert("application");

        System.out.println(trie.startsWith("app"));
        System.out.println(trie.startsWith("appl"));
        System.out.println(trie.startsWith("banana"));
    }

}
```

```java
1  package DAY_7;
2
3  import java.util.HashMap;
4  import java.util.Map;
5
6  class TrieNode {
7      Map<Character, TrieNode> children;
8      boolean isEndOfWord;
9
10     public TrieNode() {
11         children = new HashMap<>();
12         isEndOfWord = false;
13     }
14 }
15
16 public class Trie {
17     private TrieNode root;
18
19     public Trie() {
20         root = new TrieNode();
21     }
22
23     public void insert(String word) {
24         TrieNode current = root;
25         for (char ch : word.toCharArray()) {
26             current = current.children.computeIfAbsent(ch, c -> new TrieNode());
27         }
28         current.isEndOfWord = true;
29     }
```

Outline ⊠

- DAY_7
- TrieNode
- Trie
  - root : TrieNode
  - Trie()
  - insert(String) : void
  - startsWith(String) : bo
  - main(String[]) : void

Markers Properties Terminal Console ⊠ Coverage

<terminated> Trie [Java Application] C:\Users\Nikita\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe (Jun 4, 2024, 2:43:1

```
true
true
false
```