**Concatenated Words**

Rudra Bisht

Code:

public class Solution {

public static List<String> findAllConcatenatedWordsInADict(String[] words) {

List<String> result = new ArrayList<>();

Set<String> preWords = new HashSet<>();

Arrays.sort(words, new Comparator<String>() {

public int compare (String s1, String s2) {

return s1.length() - s2.length();

}

});

for (int i = 0; i < words.length; i++) {

if (canForm(words[i], preWords)) {

result.add(words[i]);

}

preWords.add(words[i]);

}

return result;

}

private static boolean canForm(String word, Set<String> dict) {

if (dict.isEmpty()) return false;

boolean[] dp = new boolean[word.length() + 1];

dp[0] = true;

for (int i = 1; i <= word.length(); i++) {

for (int j = 0; j < i; j++) {

if (!dp[j]) continue;

if (dict.contains(word.substring(j, i))) {

dp[i] = true;

break;

}

}

}

return dp[word.length()];

}

}