

Read Me before running the Program:

The program prints the number of calls to backtrack. The best case is the program fails 2 times before all the words are entered in the crossword and the worst case is program fails 8 times before all the words are entered in the crossword.

So you run the program at most 8 times or at least 3 times to check the correctness.

Backtrack Function Explanation:

This method takes two arguments one is state and the other is count to count the number of backtrack.

First, we make a if loop to check whether the state is goal state or not. If it's not the goal state then it generates rule. After that as we have 6204 rules which is difficult to execute on grid, so we use an array to store the words we are given.

Then we make another if within the first if to check the is the length of array of words is greater than index which is initially 0.

Then we make another array in which we store how many of rules the word contains.

Then we randomly select one rule from the above array.

Then we make another if within above if to check whether that rule is executed or not. That's basically for backtracking and failures.

If we don't use it then we display that word on grid and call backtracking for other index to check, we reached the goal state.

We have else statement for the last if to check if failure occurs or not.