Create a list of openlist to store the states which are yet to be visited

Create a list of closedlist to store the states those which are already visited

Store the current state in currentState and the start state in startState

Push startstate in the openlist

Do until the openlist is empty

select the state with minimum among the pending states in the openlist (the minimum is calculated based upon the f() function, that is the cost to reach the current state and the expected cost to reach the goal)

set that state with minimum heuristic as a current state

if (f value of current state is greater or equal to minimum cost)

continue with the loop

if (current state is not the goal state)

get the child states from the current state

push them in the openlist

if(currentState is the goal state)

if(g value of the current state is less than the minimum cost)

update the g value of the current state as minimum cost and

set the current state as minimum state.

End of while loop

Here each state is defined as the set of the k many strings, and every state is a unique state where the strings are changed by some pattern

As to choose the branching, Advertial search can be taken, where some herustic will guide which to choose among many of the branches.