Word Ladder Project Report

1. I would use a graph which stored through adjacency list, each vertex stores one word in that dictionary, and the edges just for the connection, which means that the distance between the two words it connects has the distance one(can be transformed through one insertion/deletion/replacement between each other).
2. First add all words into a graph, then compared each vertex in that graph with all the vertices after it, use an algorithm to check whether the distance between them is 1, if so add an edge between them.
3. After building the graph, I will use Dijkstra algorithm to find the path (set all the edge weights to 1), need a predecessor map to store all the predecessors of all the vertices in that graph when doing the search, when the search is finished, start from the ending vertex push the predecessor onto a vector until reach the start vertex, then print the vector from index 0, the printed message will be the shortest word ladder.