Scrabble Word Finder

Name: Monish Harish Nene (Alone)

There is a famous word game Scrabble. In that game, a player is given 7 - 10 random letters
Each letter has a different score based on rarity. The objective of the game is that each player must create a meaningful word from those letters and get maximum score.

My project is to write a code that will find the word or words with a maximum score that can be formed from a given set of letters.

Stored Data:

- Score for each letter stored in a dictionary.
- A Hash table with Linked – List to handle Collisions or a Trie Data structure to store the words to refer.

I will create the Data Structure with a different code dictionary.py and will import it from the Dictionary.pyc file.

The will follow the following steps for Finding the

1) **Input**

- Custom input – Any set of letters given by the user, e.g. PESDHFCAEB
- Random letters – Number of random letters will be provided by the user, e.g. 8
- Wild card search – Set of custom letters + 1 wildcard denoted by '?', e.g ?AHEORSMF

2) **Sorting, Combinations and Searching**

- Sort the letters according to scores from highest to lowest.
- Use combinations from the letters which have vowels in it and use them as a key for the hashtable.
- Most of the computation time will be required for combinations and searching.
- I will try my best to remove all the redundant cases and handle special cases separately. e.g. RHYTHM is the only 6 letter word with no vowel (Special case).

3) **Post Search Filtering**

- Handling collisions which will occur due to anagrams. I will send all the words as the result.
- There is still a chance that non-anagram words may collide which will be filtered at the end before displaying the result.

I will try to complete the project for number of letters n =5 and increase the n if it works properly.

Yes, I would like to present my project in the class.