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• **Developer**: Nalin

## Design of constructor()

- Define a constructor init with self being the current instance of the class.
- The constructor init has one parameter scrabble file of datatype file.
- Initialize the instance variable self.scrabble\_letter with an empty dictionary.
- Define a local variable letters\_file of the datatype file.
- Use the local variable letters\_file to open the file given as the parameter scrabble\_file in read mode by encoding it.
- Define a local variable <u>list\_of\_lines</u> hwose datatype is a <u>list</u>.
- Use the readlines method on letters\_file and assign it to the variable list\_of\_lines.
- Use for loop to iterate through list\_of\_lines with line as the iterator variable whose datatype is string
  - Skip the first element in the list as it is "letter,count,points" by using.
  - Inside the for loop define three more variables letter, frequency, points of datatype stinng.
  - Use split method on each line with, as the separator and assign it to the three variables letter, frequency, points.
  - If letter is the string "balnk" then
    - Assign an string with a blank space to letter.
  - Assign the list of frequency and count, where their datatypes ae typecasted to int, to the key letter in the dictionary self.scribble\_letters.

## Design of reduce frequency()

- Define a method reduce\_frequency with two parameters.
- The first parameter being self of datatype class instance and the second being letter of datatype string.
- If the letter is a string called blank then assign a string containing a blank space to letter.
- Update the string letter by using .lower() method on it.
- If the letter is in the dictionary self.scrabble letters then
  - Define the local variables frequency, points of datatype int.
  - Assign the value of the key, letter in the dictionary self.scrabble\_letters to the local variables frequency, points.
  - If the frequency is greater than 0 then
    - Reduce the value of the first element in the list associated as value to the key, letter in the dictionary self.scrabble\_letters.
    - Print the updated dictionary self.scrabble\_letters.
    - Return True.
  - Return False.

## Design of get\_freq()

- Define a method get\_freq with two parameters.
- The first parameter being self of datatype class instance and the second being letters of datatype string.
- Initialize the local variable count with an empty dictionary.

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• Use the for loop to iterate through the sring letters with the iterator variable as letter of datatype string.

- Update the letter by converting it into lower case using <a href="lower">lower</a>() method.
- If the letter is in the dictionary self.scrabbe\_letters then
  - Assign the first element in the list, associated to the key, letter in the dictionary self.scrabble\_letters to the key, letter in the dictionary count.
- Return the dictionary count.

## Design of get points()

- Define a method get\_points() with two parameters.
- The first parameter being self of datatype class instance and the second being word of datatype string.
- Initialize the local variable points of datatype int with 0.
- Use for loop to iterate through the srting word with the iterator variable letter of datatype string.
  - Update the letter by converting it into lower case using <a href="lower">lower</a>() method.
  - If letter is in the dictionary self.scrabble\_letters then
    - Add the second element in the list, associated to the key, letter in the dictionary self.scrabble\_letters to the variable points and assign this to points. Return points.