**Data Experiment**

Assumptions:

1. The data string starts with only “b”, “c”, “d” and “f”.

2. The second and third characters only exist in certain combinations with respect to the previous characters.

3. The data string does not include “a”, “i”, “o” and “l” characters at any place.

4. There are only 4 possible characters for the data string.

5. There are only 32 possible characters for the fourth/last place.

Solution:

All the strings are stored in strings.json and as we already have individual objects containing the first and second characters together, the function only has to generate the third and fourth characters. The third character is generated on the basis of the first two characters by using the findThird function and the fourth character is assumed to be any of the 32 possible characters.

Test Result:

We used Excel to compare the experiment output and the original data, and the string-space in the original data is found to be a subset of the string-space of the output. The strings that are present in both- the original dataset and the output- are highlighted in red. (The number of matching strings is 3777 even though there are a total of 3885 strings due to duplicate strings)