Map and Set Exercises

Based on the file *mobydick.txt*, write a program with the functionalities specified below that investigate word frequencies in the text file.

1) Count unique number of words in the file.

   Use this method signature to implement the functionality (`filename` refers to file path):

   ```
   public int countUniqueWords(String filename) throws FileNotFoundException
   ```

   Call the method from the `main` method to test it.

2) Find all three-letter words starting with 'a' in the file.

   Use this method signature to implement the functionality:

   ```
   public Set<String> wordsWith3LettersAStartingWithA(String filename) throws
   FileNotFoundException
   ```

   Call the method from the `main` method to test it.

   Can you make the method more general, so that starting letter and word limit size can be specified when calling the method?

3) Calculate how many times each word occurs in the file.

   Use this method signature to implement the functionality:

   ```
   public Map<String, Integer> getCountMap(String fileName) throws
   FileNotFoundException
   ```

   Call the method from the `main` method to test it.

   Pseudo code to count number of elements from a list/file into a map:

   ```
   Create map object
   Loop through list
   For each element
   If (I have not seen element before)
           map.put(element, 1)
   Else (I have seen element before)
           int count = map.get(element)
           count++
           map.put.(element, count)
   ```