**Core Java 8-2: I/O**

1. ***(Telephone-Number Word Generator)*** Standard telephone keypads contain the digits zero through nine. The numbers two through nine each have three letters associated with them but the digit 9 has four letters ([Fig. 1](https://learning.oreilly.com/library/view/Java+How+to+Program,+Early+Objects,+11th+Edition/9780134751962/xhtml/fileP7001014339000000000000000008D34.xhtml#P7001014339000000000000000008DB8)). Many people find it difficult to memorize phone numbers, so they use the correspondence between digits and letters to develop seven-letter words that correspond to their phone numbers. For example, a person whose telephone number is 686-2377 might use the correspondence indicated in [Fig. 1](https://learning.oreilly.com/library/view/Java+How+to+Program,+Early+Objects,+11th+Edition/9780134751962/xhtml/fileP7001014339000000000000000008D34.xhtml#P7001014339000000000000000008DB8)to develop the seven-letter word “NUMBERS.”

Fig. 1

| **Digit** | **Letters** | **Digit** | **Letters** | **Digit** | **Letters** |
| --- | --- | --- | --- | --- | --- |
| 2 | A B C | 5 | J K L | 8 T U V | T U V |
| 3 | D E F | 6 | M N O | 9 W X Y Z | W X Y |
| 4 | G H I | 7 | P R S |  |  |

Telephone keypad digits and letters.

Write a program that, given a seven-digit number, uses a Formatter object to write to a file every possible seven-letter word combination corresponding to that number. Please check the JavaDocs for use of the Formatter class. This exercise will give you practice on custom formatting also. There are 2,916 or (3^6) \* 4 such combinations. Avoid phone numbers with the digits 0 and 1. This combination should not be hard for you to figure. Remember from algorithms section and just combinations in general if we talk about an 8 bit binary number we are talking about 2^8 combinations from 0 – 255 so 256 combinations of the set binary digits 0, 1. The telephone keypad is just 7 groups of a set of three letters.