**Homework 2, Problem 2**

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**Homework 2, CSc 473, Web Site Design, Fall 2013**

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**Problem 2: Write test code.**

In this problem you will begin understanding how you can do test driven development. Write an encoder and decoder function to/from english from/to Tutnese aka Double Dutch reference, see [Tutnese](http://en.wikipedia.org/wiki/Tutnese) .

Tutnese is a language game based on English, although the rules can apply to almost any language. Tutnese is often learned by children, as a "secret language" to speak in privacy from adults. It has also been used by members of historically marginalized groups for speaking secretly in the presence of authority figures such as the police.

1. Vowels are pronounced normally
2. Each single consonant is replaced with a syllable from the following table:

| **Letter** | **Possible syllables** | **Letter** | **Possible syllables** | **Letter** | **Possible syllables** |
| --- | --- | --- | --- | --- | --- |
| B | bub | K | kuck | S | sus |
| C | coch | L | lul | T | tut |
| D | dud | M | mum | V | vuv |
| F | fuf | N | nun | W | wack |
| G | gug | P | pup | X | xux |
| H | hash | Q | quack | Y | yub |
| J | jug | R | rur | Z | zug |

Double letters in a word, rather than being repeated, are preceded by the syllable squa to indicate doubling. For example, "bb" becomes "squab".

Over hill, over dale, Thorough bush, thorough brier, Over park, over pale, Thorough flood, thorough fire!

Becomes

ovuverur hashisqual, ovuverur dudalule, tuthashorurougughash bubusushash, tuthashorurougughash bubrurierur, ovuverur puparurkuck, ovuverur pupalule, tuthashorurougughash fufluloodud, tuthashorurougughash fufirure!

Note in this version punctuation is left alone and, double vowels are left as is, and all letters are converted to lower case. You must write your code in a file called "tutnese.py". There should be two functions "encode" and "decode." Each takes as an argument a string, and returns a string according to the rules above.

In addition your code should throw an exception if the input text contains the "|" character. As a hint, I use this character as a temporary placeholder where I substitute double characters. As another hint, use the regular expression library. It will help you do substitutions as well as match strings in the document. You should write your own tests "test\_tutnese.py". Make sure you make the repo accessible to the test bot and me as well. I will look for tests.

* <http://somethingaboutorange.com/mrl/projects/nose/1.0.0/>
* <http://www.elkner.net/static/jeff/testFirst/index.html>