CSCI 1133, Spring 2015
Programming Assignment 9

Assigned: Friday April 3, 2015
Due: 11:55pm Thursday April 9, 2015

This is ***not*** a collaborative assignment; you must design, implement and test the solution(s) on your own. You may not consult or work with anyone other than the course instructor or TAs. In addition, you may not include solutions or portions of solutions obtained from any source other than those provided in class. Obtaining or *providing* solutions to any homework problems for this class is considered academic misconduct. If you are not sure what this means, consult the class syllabus or discuss it with the course instructor.

This assignment requires writing a single Python script that must be submitted online *prior* to the due date/time. Late submissions will not be accepted. Name your source code: `hw9.py` Submit your source code file using the appropriate homework submission link on the Moodle website.

The total point value for programming assignments will be awarded for solutions that are *complete*, *correct*, and *well constructed*. A *"well constructed"* program entails good design, appropriate comments and general readability (descriptive names for variables and procedures, appropriate use of blank space, etc.). The following will result in a score reduction equal to a percentage of the total possible points:

- Incorrectly named/submitted source file (10%)
- Constraints not followed (40%)
- Failure to execute due to syntax errors (30%)

Note that your work will be graded using, and must function correctly with, the current version of Python 3 on CSE Labs UNIX machines. If you complete your programming assignment using a different system, it is your responsibility to ensure your programs work on CSELabs machines *prior* to submitting them.

A. (40 *points*) **Reverse Phone Spelling Program** (adaped from *Dierbach,* problem D1*, p361*)

Develop and test a program that allows a user to enter a phone number containing letters and outputs the corresponding numeric phone number. e.g. 764-HELP is equivalent to 764-4357.

Requirements:

Your program must do the following:

- Use a Python dictionary container object to perform the letter-to-number conversion.
- Input phone numbers must have either 7 or 10 "digits" (numbers or letters) and can be input in upper or lower case using any or no punctuation: e.g., '612.GOT.MILK', '(612) GOT MILK', '612gotMilk', and '612 GOT#MILK' are all valid inputs.
- Validate the input to ensure it contains the correct number of "digits"
- Output the converted phone number using hyphen characters in one of the following forms as appropriate:

```
nnn-nnn-nnnn
nnn-nnnn
```

- Continue converting telephone numbers until the user enters a null string.

Constraints:

- Do not import/use any library modules.

Examples:

```
Enter a telephone number: 612.got.milk
Numeric telephone number is: 612-468-6455
Enter a telephone number: 612.not.milky
```

```
Invalid number!
Enter a telephone number: Voo doo Dude
Numeric telephone number is: 866-366-3833
Enter a telephone number: got#milk
Numeric telephone number is: 468-6455
Enter a telephone number:
```