Deborah Barndt

ITMD 513 Open Source Programming

Professor Dr. Sam

Hw7

3-6-19

```
1    '''
2    Deborah Barndt
3    3-6-19
4    PhoneNumberTranslator.py
5    hw7: Alphabetic Telephone Number Translator
6
7    Alphabetic Telephone Number Translator:
8    Many companies use telephone numbers like 555-GET-FOOD so the number is easier for their
9    customers to remember. On a standard telephone, the alphabetic letters are mapped to numbers
10   in the following fashion:
11   A, B, and C = 2
12   D, E, and F = 3
13   G, H, and I = 4
14   J, K, and L = 5
15   M, N, and O = 6
16   P, Q, R, and S = 7
17   T, U, and V = 8
18   W, X, Y, and Z = 9
19
20   This program will ask the user to enter a 10-character telephone number in the format
21   XXX-XXX-XXXX, then the program will display the telephone number with any alphabetic
22   characters that appeared in the original translated to their numeric equivalent.
23   For example, if the user enters 555-GET-FOOD, the program will display 555-438-3663.
```

```python
24
25      Written by Deborah Barndt.
26      '''
27
28      # Function to translate the letters to numbers.
29      def letterToNum(usernum):
30        realnum = ''
31
32        for i in range(0, 12):
33          # Check in the input has a length of 12.
34          if (len(usernum) != 12):
35            return None
36
37          # Check if the input is a number.
38          elif (usernum[i] in '0123456789'):
39            realnum += usernum[i]
40
41          # Check if the letter is A, B, or C.
42          elif (usernum[i] in 'ABC'):
43            realnum += '2'
44
45          # Check if the letter is D, E, or F.
46          elif (usernum[i] in 'DEF'):
47            realnum += '3'
48
49          # Check if the letter is G, H, or I.
50          elif (usernum[i] in 'GHI'):
51            realnum += '4'
52
```

```python
53          # Check if the letter is J, K, or L.
54          elif (usernum[i] in 'JKL'):
55              realnum += '5'
56
57          # Check if the letter is M, N, or O.
58          elif (usernum[i] in 'MNO'):
59              realnum += '6'
60
61          # Check if the letter is P, Q, R, or S.
62          elif (usernum[i] in 'PQRS'):
63              realnum += '7'
64
65          # Check if the letter is T, U, or V.
66          elif (usernum[i] in 'TUV'):
67              realnum += '8'
68
69          # Check if the letter is W, X, Y, or Z.
70          elif (usernum[i] in 'WXYZ'):
71              realnum += '9'
72
73          # Check if the input contains 10-characters.
74          elif (usernum[i] == '-'):
75              if (i != 3 and i != 7):
76                  #print(realnum)
77                  return None
78
79              else:
80                  realnum += '-'
81
```

```python
82        #print(realnum)
83        return realnum
84
85    # Function to ask the user to enter a 10-character telephone number and then translate it.
86    def main():
87      while True:
88        # Ask the user to enter a 10-character telephone number in a specific format.
89        usernum = input('Enter a 10-character telephone number in the format XXX-XXX-XXXX: ')
90
91        # Get the real phone number from the user input.
92        realnum = letterToNum(usernum)
93
94        # Check if the number entered by the user is in the correct format.
95        if (realnum == None):
96          print('Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX')
97
98        else:
99          print('The real phone number of ', usernum, ' is: ', realnum)
100
101        # Ask the user if they would like to enter another phone number.
102        enterAgain = input('Would you like to enter another phone number? (y/n): ')
103
104        if (enterAgain != 'y'):
105          print('Thank you for using the Alphabetic Telephone Number Translator.\n')
106          break
107
108    # Call the main function to begin the program.
109    main()
110
```

111   Output Result:

```
Python 3.7.2 Shell                                    —    □    X

File  Edit  Shell  Debug  Options  Window  Help

Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\ITMD 513 Open Source Programming Python\hw7\PhoneNumberTranslator.p
y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 555GETFOOD
Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX
Would you like to enter another phone number? (y/n): y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 555-GETFOOD
Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX
Would you like to enter another phone number? (y/n): y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 555-GET-FOOD
The real phone number of  555-GET-FOOD  is:  555-438-3663
Would you like to enter another phone number? (y/n): y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 800THEBEST
Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX
Would you like to enter another phone number? (y/n): y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 800-THEBEST
Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX
Would you like to enter another phone number? (y/n): y
Enter a 10-character telephone number in the format XXX-XXX-XXXX: 800-THE-BEST
The real phone number of  800-THE-BEST  is:  800-843-2378
Would you like to enter another phone number? (y/n): n
Thank you for using the Alphabetic Telephone Number Translator.

>>>
```

112

113