Deborah Barndt

ITMD 513 Open Source Programming

Professor Dr. Sam

Hw7

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PhoneNumberTranslator.py

hw7: Alphabetic Telephone Number Translator

Alphabetic Telephone Number Translator:

Many companies use telephone numbers like 555-GET-FOOD so the number is easier for their

customers to remember. On a standard telephone, the alphabetic letters are mapped to numbers

in the following fashion:

A, B, and C = 2

D, E, and F = 3

G, H, and I = 4

J, K, and L = 5

M, N, and O = 6

P, Q, R, and S = 7

T, U, and V = 8

W, X, Y, and Z = 9

This program will ask the user to enter a 10-character telephone number in the format

XXX-XXX-XXXX, then the program will display the telephone number with any alphabetic

characters that appeared in the original translated to their numeric equivalent.

For example, if the user enters 555-GET-FOOD, the program will display 555-438-3663.

Written by Deborah Barndt.

'''

# Function to translate the letters to numbers.

def letterToNum(usernum):

realnum = ''

for i in range(0, 12):

# Check in the input has a length of 12.

if (len(usernum) != 12):

return None

# Check if the input is a number.

elif (usernum[i] in '0123456789'):

realnum += usernum[i]

# Check if the letter is A, B, or C.

elif (usernum[i] in 'ABC'):

realnum += '2'

# Check if the letter is D, E, or F.

elif (usernum[i] in 'DEF'):

realnum += '3'

# Check if the letter is G, H, or I.

elif (usernum[i] in 'GHI'):

realnum += '4'

# Check if the letter is J, K, or L.

elif (usernum[i] in 'JKL'):

realnum += '5'

# Check if the letter is M, N, or O.

elif (usernum[i] in 'MNO'):

realnum += '6'

# Check if the letter is P, Q, R, or S.

elif (usernum[i] in 'PQRS'):

realnum += '7'

# Check if the letter is T, U, or V.

elif (usernum[i] in 'TUV'):

realnum += '8'

# Check if the letter is W, X, Y, or Z.

elif (usernum[i] in 'WXYZ'):

realnum += '9'

# Check if the input contains 10-characters.

elif (usernum[i] == '-'):

if (i != 3 and i != 7):

#print(realnum)

return None

else:

realnum += '-'

#print(realnum)

return realnum

# Function to ask the user to enter a 10-character telephone number and then translate it.

def main():

while True:

# Ask the user to enter a 10-character telephone number in a specific format.

usernum = input('Enter a 10-character telephone number in the format XXX-XXX-XXXX: ')

# Get the real phone number from the user input.

realnum = letterToNum(usernum)

# Check if the number entered by the user is in the correct format.

if (realnum == None):

print('Invalid phone number. Please enter in the correct format of XXX-XXX-XXXX')

else:

print('The real phone number of ', usernum, ' is: ', realnum)

# Ask the user if they would like to enter another phone number.

enterAgain = input('Would you like to enter another phone number? (y/n): ')

if (enterAgain != 'y'):

print('Thank you for using the Alphabetic Telephone Number Translator.\n')

break

# Call the main function to begin the program.

main()

Output Result:

