```python
# HW 7 Task 1

quarterback_stats = {
    'Aaron Rodgers': {'COMP': 371, 'YDS': 4925, 'TD': 39, 'INT': 8},
    'Peyton Manning': {'COMP': 400, 'YDS': 4659, 'TD': 37, 'INT': 11},
    'Greg McElroy': {'COMP': 19, 'YDS': 214, 'TD': 1, 'INT': 1},
    'Matt Leinart': {'COMP': 16, 'YDS': 115, 'TD': 0, 'INT': 1}
}

print('2012 quarterback statistics:')

print('  Passes completed:')
for qb in quarterback_stats:
    comp = quarterback_stats[qb]['COMP']
    print('    %-15s: %3d' % (qb, comp))

print('  Passing yards:')
for qb in quarterback_stats:
    yds = quarterback_stats[qb]['YDS']
    print('    %-15s: %4d' % (qb, yds))

print('  Touchdown / interception ratio:')
for qb in quarterback_stats:
    tds = quarterback_stats[qb]['TD']
    icp = quarterback_stats[qb]['INT']
    print('    %-15s: %4.2f' % (qb, tds/icp))
```

```python
# HW 7 Task 2

def hidden_word(word, guesses):
    hidden_word = ""
    for c in word:
        hidden_word += c if c in guesses else '-'
    return hidden_word

def success(word, guesses):
    for c in word:
        if c not in guesses:
           return False
    return True

word = 'onomatopoeia'
max_number_guesses_allowed = 10
guess_number = 1
guesses = ''

while True:

    user_input = input('Enter a character (guess #%d): ' % guess_number)
    if len(user_input) != 1:
       print("You did not enter a single character. Please try again.")
       continue

    guesses += user_input
    print(hidden_word(word,guesses))

    if success(word,guesses):
       print('Winner!')
       break

    if guess_number == max_number_guesses_allowed:
       print('Loser! The word was %s' % word)
       break

    guess_number += 1
```

```python
# HW 7 Task 3

def isletter(ch):
    return 'a' <= ch <= 'z' or 'A' <= ch <= 'Z'

def posIsLetter(user_tweet, pos):
    return pos >= 0 and pos < len(user_tweet) and isletter(user_tweet[pos])

def decoded(user_tweet, acronym, full_word):
    start = 0
    start1= 0
    decoded_tweet = ''
    while True:
       pos = user_tweet.find(acronym, start1)
       if pos == -1:
          decoded_tweet += user_tweet[start:]
          return decoded_tweet
       if posIsLetter(user_tweet, pos-1):
          start1 = pos + 1
          continue
       if posIsLetter(user_tweet, pos+len(acronym)):
          start1 = pos + 1
          continue
       decoded_tweet += user_tweet[start:pos] + full_word
       start = pos + len(acronym)
       start1= start

print(decoded('TTYL Gotta TTYLL go. ITTYL will TTYL.', 'TTYL', 'talk to you
later'))

# talk to you later Gotta TTYLL go. ITTYL will talk to you later.
```

```python
# HW 7 Task 4

alphabet = "abcdefghijklmnopqrstuvwxyz "
key      = "sxzaijhbwpekfcqrgdtluv noym"

def codedText(text, keyMap):
    answer = ''
    for c in text:
        answer += keyMap[c]
    return answer

def substitutionEncrypt(plainText, key):
    keyMap = {}
    for (index,c) in enumerate(alphabet):
        keyMap[c] = key[index]
    return codedText(plainText, keyMap)

def substitutionDecrypt(cipherText, key):
    inverseKeyMap = {}
    for (index,c) in enumerate(alphabet):
        inverseKeyMap[key[index]] = c
    return codedText(cipherText, inverseKeyMap)

plainText   = 'today is tuesday'
cipherText  = substitutionEncrypt(plainText,  key)
decodedText = substitutionDecrypt(cipherText, key)
```