1. “Describe” the following terms (1 point each): *Practice Note: I will select at most three of the terms below.*
   - algorithm
   - task decomposition
   - literal
   - type
   - syntax error
   - sequence type
   - list
   - method
   - dictionary
   - code block

2. What is one reason it is helpful to know that “everything is an object” in Python?

3. Give one or two sentences describing why floating point numbers are usually not a good choice for items that are “counted” (e.g. money).
4. Give the output for each of the code snippets below. (2 points each)

(a) 
```
a_number = 123403 % 1000
print( a_number // 25 )
```

(b) 
```
a_string = 'abcdefg'
if a_string[1] == 'a':
    print( 'match' )
else:
    print( 'no go' )
```

(c) 
```
a_list = [1, 2, 3]
a_list.append( 'andy' )
print( a_list.pop() )
```

(d) 
```
a_dict = {1 : 2}
a_dict[1] = a_dict[1] ** 2
print( a_dict )
```

5. Give the value of x after each of the following code snippets execute. (2 points each)

(a) 
```
x = 10
x = x / 2
x = x // 2
```

(b) 
```
x = 'abcABC'
x = x.casefold()
x = x + x
```

(c) 
```
x = []
x.append( [1, 2] )
x.append( [3, 4] )
```
6. Identify one error in each of the code snippets given below. (2 points each) Practice Note: This may be a syntax, runtime, or logical error. You do not need to classify the error, you only need to mark it. Note there may be more than one error in a particular snippet.

(a) ```python
last_name = input('Enter your last name')
last_name.casefold()
print('Your name in all lowercase is', last_name)
```  

(b) ```python
if first_name[0] == 'A' or 'B':
    print('Your name starts with an A or a B')
else:
    print('Your name does not start with A or B')
```  

7. For each data description below, give the Python data structure(s) (string, list, tuple, dictionary) you would use to store the information. Describe how you would use each structure. Defend your choice with one or two sentences. (3 points each)

(a) The street address of a customer for a business

(b) The names of all customers for a business

(c) Basic information (name, age, address) for a single customer

(d) Customer information (name, age, address) for all customers of several different businesses
8. Complete the Python code given below so that it correctly implements the specification given in the comments. (3 - 7 points each)

(a)
```python
# This program prints 'success' exactly when the entered username and password
# match the information we have on authorized users.
authorized_users = {'andy': 'password123', 'jdoe': '298t0njd1'}
username = input('Enter your username: ')
password = input('Enter your password: ')
```

(b)
```python
# This program takes the minutes past midnight and converts it to a standard
# time format (12 hour format, AM/PM)
minutes = input('Enter minutes past midnight: ')
hour = minutes // 60
```

9. Create a Python program to solve each of the problem specifications given below. (5 - 15 points each)

(a) Write a Python program to compute the number of times a user-specified letter appears in text provided by the user.

(b) Write a Python program to count the total number of words in a user-specified text.

(c) Implement a simple “rock-paper-scissors” game. This game should:
   1. Prompt player 1 for their choice (rock, paper, or scissors).
   2. Prompt player 2 for their choice (rock, paper, or scissors).
   3. Display the outcome of the game. For those not familiar with the game, the outcomes are determined by the following rules:
      - Rock beats Scissors
      - Scissors beats Paper
      - Paper beats Rock
      - The game is a draw if both players make the same choice.

(d) Write a program to “translate” a given word to a simplified version of “Pig Latin”. The conversion rules are:
   - If the given word begins with a vowel (a, e, i, or u), 'yay' is added to the end of the word.
   - If the given word begins with a consonant, the first letter is moved to the end of the word and 'ay' is added to the end.