

Survey #4

Name: Solution

1: What is the different between opening a file in write mode ("w") compared to append mode ("a")?

In append mode, data is added to the end of an existing file. If an existing file is opened in write mode then any data already present in the file will be lost.

2: Consider the following code segment:

```
def func1():
    func2()          # 1
    print "cpsc-217" # 2

def func2():
    print "survey"   # 3

print "start"       # 4
func1()              # 5
print "end"         # 6
```

When this program runs, the statements will execute in the order: 4 5 1 3 2 6

3: Lists and dictionaries are both structures that allow us to organize a collection of related pieces of data. Describe two significant differences between these data structures.

Lists are an ordered data structure, while the order of elements in a dictionary is not defined.

In a list, each index must be an integer starting from 0, increasing by 1. The keys in a dictionary (which serve a similar purpose) can be strings or numbers, and don't have to increase by 1 for each new item.

Consider the following code segment:

```
a = input ("Enter a number: ")
print "A"

try:
    print "B"
    b = 1.0 / float(a)
    print "C"
except:
    print "D"

print "E"
```

4: If the user enters 1.0 when prompted, the output from the program will be: A B C E

5: If the user enters 0.0 when prompted, the output from the program will be: A B D E

6: Which of the following statements is most correct?

- A. In a relational database, the schema describes the structure of the data in the database ✓
- B. A primary key is a unique value associated with each row in a table ✓
- C. Text files and databases are both viable options for managing large amounts of data ✗
- D. Exactly two of the above answers are correct
- E. Answers a, b and c are all correct

Answer: D

7: Write a Python function that formats a string of digits into a telephone number with appropriate use of brackets, a space, and a dash. For example, if your function was provided the string "4031234567" then your function would return "(403) 123-4567". If the string provided to your function isn't exactly 10 digits long, or if the string contains any characters which are not a digit, then your function should return the empty string.