

CS 2316 Exam 2 Practice

ANSWER KEY

- Signing signifies you are aware of and in accordance with the **Academic Honor Code of Georgia Tech**.
- Calculators and cell phones are NOT allowed.
- This is a Python programming test. Where asked for Python statements or expressions you must print them exactly as they would be typed in a Python source file or interactive shell.

| Question | Points per Page | Points Lost | Points Earned | Graded By |
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1. **True or False**

In each of the blanks below, write “T” if the statement beside the blank is true, “F” otherwise.

- [1] (a) **F** Comma-separated values (CSV) files have a tree structure, meaning they have elements that are nested to arbitray depths.
- [1] (b) **F** CSV files are binary files whose contents can only be viewed with proprietary software.
- [1] (c) **T** Files in Python are buffered, meaning that they are not guaranteed to be completely written to disk until they are successfully closed.

2. **Multiple Choice** Circle the letter of the correct choice.

- [2] (a) Given the following CSV file contents:

```
'a'; 'b'; 'c'
'd'; 'e'; 'f'
'g'; 'e'; 'h'
```

What is the field delimiter?

- A. ','
- B. ';'
- C. '"'
- D. ''

- [2] (b) What is the quote character?

- A. ','
- B. ';'
- C. '"'
- D. ''

- [2] (c) If you read the CSV file above with a `csv.DictReader` like this:

```
quote = ... # from question above
delim = ... # from question above
reader = csv.DictReader(csvfile, delimiter=delim, quotechar=quote)
```

what would it return for the first record?

- A. ['a', 'b', 'c']
- B. ('a', 'b', 'c')
- C. {'a': 'd', 'b': 'e', 'c': 'f'}
- D. {None: 'a', None: 'b', None: 'c'}

3. Short Answer

- [5] (a) Say you have a python program that was run from the command line with `python my_program one two three`. Within your program, how do you get the first command line argument *to your program* (not to the Python interpreter)?

Solution:

```
import sys
first = sys.argv[1]
```

- [5] (b) Say you have a python program that was run from the command line. Write a snippet of Python code that checks whether any command line arguments were supplied to the Python program.

Solution:

```
if len(sys.argv) > 1:
    # at least one command line argument was supplied to the Python program
```

- [5] (c) Write a Python statement that opens a file for reading as text. The file name is supplied by the first command line argument.

Solution:

```
fin = open(sys.argv[1], 'rt')
```

- [5] (d) Write a Python statement that opens a file for writing as text. The file name is the first command line argument with the text ".out" appended.

Solution:

```
fout = open(sys.argv[1] + '.out', 'wt')
```

- [10] 4. Write Python code that reads a CSV file that uses commas for delimiters, no quote characters and has no header row and stores the data as a list of lists. For example, for a file like:

```
a,b,c  
d,e,f
```

your code should create a list of lists like:

```
[['a', 'b', 'c'], ['d', 'e', 'f']]
```

Use whatever Python programming techniques you wish.

```
import csv  
with open(fine_name, 'r') as fin  
    reader = csv.reader(fin)  
    data = [line for line in reader]
```

Or

```
import csv  
data = []  
with open(fine_name, 'r') as fin  
    reader = csv.reader(fin)  
    for line in reader:  
        data.append(line)
```

Or

```
with open(fine_name, 'r') as fin  
    data = [line.split(',') for line in fin]
```

Or

```
data = []  
with open(fine_name, 'r') as fin  
    for line in fin:  
        data.append(line.split(','))
```

Or ...