SD212 6-Week Exam Practice

1. Suppose a file called `inventory.csv` shows a drug store's inventory, like this:

```
item,each,quantity
toothpaste,2.50,5
bacon,12.00,3
lollipops,0.50,8
```

   Write a Python program that reads in this file and prints out the total value (price times quantity) of all items worth less than $10 each.

   (For the example above it would be `2.50 * 5 + 0.50 * 8 = 16.50`.)

   Don't worry about the formatting of the output number.

2. For the same `inventory.csv` file as above, write a bash pipeline that will count how many items contain the word `tooth`.

3. For the same `inventory.csv` example, what would be the *statistical data type* of each column in this file?

4. For the same `inventory.csv` file as above, write a bash script that lists any items the store is out of (i.e., their quantity equals 0.)

   Your script should print out *only* the names of these items, one per line.

5. For the same kind of `inventory.csv` file as above, write a bash script that identifies and prints out any mis-formatted lines. (E.g., wrong number of columns, second column is not a price, or third column is not a number.)

6. For the same kind of `inventory.csv` file as above, write a bash script that modifies the file so that the prices are all whole dollar amounts ending in `.00` (rounding down).

7. Write a bash script that displays the 5th line of every `.txt` file in a directory called `books`.

8. Write a bash script that counts the total number of lines mentioning `coffee` or `tea` in any `.txt` file in a directory called `books`.

9. Write a bash script that moves any file in the directory `books` that mentions `dragons` to a new directory called `fantasy`.

10. Write a Python program that asks the user for a filename, then tries to open that file and determine how many social security numbers written like `078-05-1120` are in the file. If the file doesn't exist, print a suitable error message and exit.

11. Write a Python program that reads in lines of input from the terminal, then prints out the same line but any social security numbers redacted, so for example `078-05-1120` would become `078-05-XXXX`.

12. Write a bash script that does the same thing as the previous problem, reading input lines and redacting SSNs.