COMP1112 Final Exam

Guidelines

1. **At the top of each file, put you name and student number**
2. Follow all coding conventions discussed in class
3. Do not copy code from anywhere or anyone
4. You may use any tools at your disposal that do not write code for you, including IDEs and textbooks
5. Be ready to explain your code in an oral review
6. You will have 3 hours to complete the exam

Exam

Part 1: Code Analysis (20 points)

For the file "Part1.py" perform the following:

1. Analyze the script and add comments throughout explaining the function
2. Add a multiline comment at the top that explain the general purpose of the script
3. In another multiline comment at the top suggest two modifications to the code that would improve its functionality

Part 2: Script Writing (20 points)

Create a Python script named "Part2.py" that satisfies the following:

1. Define a function called "reverseWords" that takes a string as an argument and returns the string with the order of the words reversed.
2. The function should not use the built-in function reverse() or reversed().
3. The function should handle multiple spaces between words and leading/trailing spaces in the input string. Treat special characters and numbers as if they were letters (0-9 , . ? / ^ % etc.)
4. Test the function by calling it with two different inputs and printing the results.

Part 3: File Handling (30 points)

Create a Python script named "Part3.py" that completes the following tasks:

The script should create a text file named "data.txt" and write the following four lines to the file:

A. First line: the string "1,2,3,4,5,6,7,8,9,10".
B. Second line: the string "This is a test".
C. Third line: the string "1 2 3 4 5 6 7 8 9 10".
D. Fourth line: the string "10,9,8,7,6,5,4,3,2,1".

Then the script should define a function called "readFile" that reads in the contents of "data.txt" and performs the following tasks:

1. Converts the first line of the file into a list of integers, then print them.

2. Removes all vowels from the second line of the file and writes the result to a new file called "output.txt".
3. Converts the third line of the file into a list of integers, then print them.
4. Sorts the fourth line of the file in descending order and returns the result.

Finally, the script should call the "readFile" function and print the return value.

Part 4: OpenPyXL (30 Points)

Create a file called "Part4.py" that completes the following **using the OpenPyXL module we used in class**:

Define a function called "makeWorkbook" that takes two arguments: a string, and a 2D list. The function should use the string to name an excel file and initialize the excel file using each entry in the 2D list as a row. Your function should support at least 10 columns and 200 rows.

For example, if your list looks like this:

```
myList = [["1","2","3"],[4,"Test",6,"Eight"],[7.3,"35", 4.2]]
```

Your Excel file should look like this:

	A	B	C	D
1	1	2	3	
2	4	Test	6	Eight
3	7.3	35	4.2	

Submission

Your submission should be a single ZIP file containing 4 files, one for each part of the exam. Please submit your ZIP to D2L.