CENT110 Homework 8

Start up LibreOffice Calc and enter the following into a spreadsheet.

	A	B	C	D
1	CENT 1000			
2	Name	HW1	HW2	Exam1
3	Chen, Raymond	100.0%	90.0%	96.3%
4	Doe, Jane	100.0%	100.0%	93.8%
5	Doe, John	100.0%	90.0%	83.8%
6	Gates, Bill	80.0%	100.0%	98.8%
7	Lovelace, Ada	100.0%	95.0%	97.5%
8	Raymond, Eric	100.0%	90.0%	88.8%
9	score weight	5	5	10
10				

Go to File → Save As. Choose the Text CSV format and a filename of "hw8.csv". When the dialog box, **Confirm File Format**, comes up, choose

1. the **Use Text CSV Format** button
2. Next, use **tabs for the field delimiter** and
3. **remove the quotes from the text delimiter box**,
4. then click OK.
5. Close LibreOffice Calc.

The purpose of the score weights, is that the overall score is given by $\text{overall score} = \frac{\sum(\text{assignment} \times \text{score weight})}{\sum \text{score weight}}$

Change into the directory you saved "hw8.csv" into, and write a Python program that will take the input and calculate the overall score for each student. The program will also write to an XML file (with the filename specified by the user) that contains the student information in the following format:

```
<?xml version="1.0" ?>
<students>
  <student>
    <firstName>Raymond</firstName>
    <lastName>Chen</lastName>
    <overall>95.65</overall>
  </student>
```

```
  <student>
    <firstName>Jane</firstName>
    <lastName>Doe</lastName>
    <overall>96.90</overall>
  </student>
  <student>
    <firstName>John</firstName>
    <lastName>Doe</lastName>
    <overall>89.40</overall>
  </student>
  <student>
    <firstName>Bill</firstName>
    <lastName>Gates</lastName>
    <overall>94.40</overall>
  </student>
  <student>
    <firstName>Ada</firstName>
    <lastName>Lovelace</lastName>
    <overall>97.50</overall>
  </student>
  <student>
    <firstName>Eric</firstName>
    <lastName>Raymond</lastName>
    <overall>91.90</overall>
  </student>
</students>
```

The program should prompt for the input filename and the output filename. This is an exercise in making use of lists and for loops.

Scoring for assignment

1. Each student will turn in algorithms for the program. This will be a high level algorithm as well as a detailed algorithm. Max score is 20 points. This is due by Friday.
2. The remaining 10 points will be based on your group score. The group score will depend on how many of the questions posed in class your group gets correct. The group score is determined as follows:

Percent questions correct	Points
>= 80%	10
>= 70% and <80%	8

>= 60% and <70%	6
<60%	4