Lab Questions

Question 1: Getting familiar with XML Files

Write a complete XML file named textbooks.xml, in which you describe at least a partial list of the textbooks you are using this semester. You should include at least two distinct textbooks. If you are using only one text this semester, expand your list to cover the current academic year. Your description of each book must include the title, author(s), publisher, year of publication, and the ISBN. For each author, specify the first and last name as distinct values. Include both a name and website for the publisher.specify the edition and cover type (paperback or hardcover) of each book you are using. Make sure your final XML document is well-formed.

Question 2:

Write a python program to read the following XML file (Given below)
1. Read the score of each class from score_data.xml, compute the GPA.
2. Add a gpa attribute for each class element.
3. Write the updated xml into a new file: output.xml (shown in Fiture2)
4. Upload your python source code file.

score_data.xml :

```
<?xml version="1.0"?>
<score data>
   <student student_id="A001">
       <xml class>60</xml class>
       <data structure>70</data structure>
       <algorithm>85</algorithm>
       <network>90</network>
   </student>
   <student student id="A002>
       <xml class>66</xml class>
       <data_structure>78</data structure>
       <algorithm>62</algorithm>
       <network>88</network>
   </student>
```

```
   <student student student id="A003">
       <xml class>89</xml class>
       <data structure>77</data structure>
       <algorithm>80</algorithm>
       <network>50<network>
   </student>
</score_data >
```

Question 3:

Write a python program to read the XML file output.xml (given below).
1. Add 5 to each class's score, compute the GPA.
2. Compute the average GPA.
3. Add average element for average GPA of each student
4. Write the updated xml into a new file: new_output.xml

XML file for Q3:

```
<?xml version="1.0"?>
<score data>
   <student student_id="A001">
       <xml class gpa="2">60</xml class>
       <data structure gpa="2.7">70</data structure>
       <algorithm gpa="4">85</algorithm>
       <network gpa="4.5">90</network>
   </student>
   <student student id="A002>
       <xml class gpa="2.3">66</xml class>
       <data_structure gpa="3.3">78</data structure>
       <algorithm gpa="2">62</algorithm>
       <network gpa="4">88</network>
   </student>
   <student student student id="A003">
       <xml class gpa="4">89</xml class>
       <data structure gpa="3.3">77</data structure>
       <algorithm gpa="3.7">80</algorithm>
       <network gpa="1">50<network>
   </student>
</score_data >
```