Introduction to Web Technology
Spring Session 2020

Assignment 4 (10%) due on **Saturday 31 October 2020 at 7:00pm**

Important notices:
Penalties apply to all late work, except if student academic consideration has been granted. Penalties for late submission of assessment items are specified in the subject outline.

If you need an extension, please apply for an Academic Consideration through SOLS on or before the assignment due date.

Plagiarism is treated seriously. If we suspect any work is copied, all students involved are likely to receive zero for the entire assignment.

Submission instructions:
Create a folder to store all your code and images.
Compress your folder into A4.zip and submit it via the Assignment 4 Submission on Moodle.

Assignment specification:
There are 4 assignment questions.

Question 1. (2%) Consider the following train timetable:

Wollongong - Kiama, leaving in 5 min	
08:54	Wollongong Station, Platform 2
08:56	Coniston Station, Platform 2
09:01	Unanderra Station, Platform 1
09:07	Dapto Station, Platform 2
09:15	Albion Park Station, Platform 2
09:21	Oak Flats Station, Platform 1
09:25	Shellharbour Junction, Platform 2
09:29	Minnamurra Station, Platform 1
09:34	Bombo Station, Platform 1
09:38	Kiama Station, Platform 2

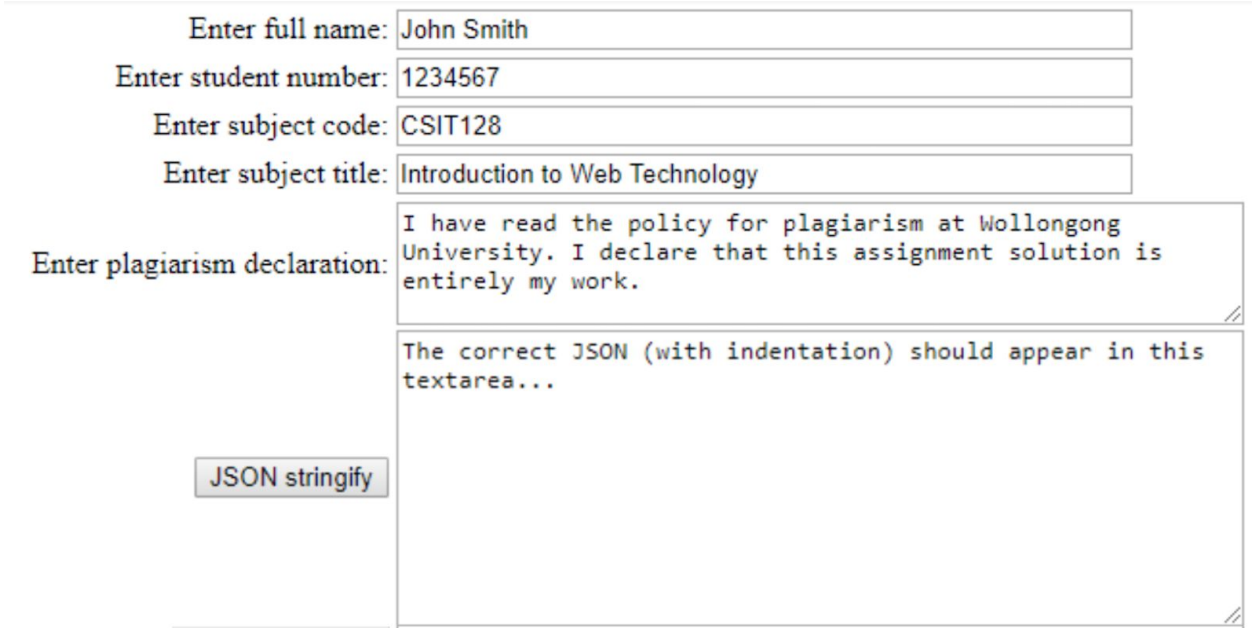
Write an XML document `Question1.xml` that represents the above train timetable which uses the stylesheet `Question1.xsl` and produce the following output:

Wollongong - Kiama, due: 5 min

- Wollongong Station, 08:54, P2
- Coniston Station, 08:56, P2
- Unanderra Station, 09:01, P1
- Dapto Station, 09:07, P2
- Albion Park Station, 09:15, P2
- Oak Flats Station, 09:21, P1
- Shellharbour Junction, 09:25, P2
- Minnamurra Station, 09:29, P1
- Bombo Station, 09:34, P1
- Kiama Station, 09:38, P2

Question 2. (2%) Write a JSON document `Question2.json` that represents the above train timetable.

Question 3. (2%). Create a web page `Question3.html` that looks like the following:



The web page should allow the user to enter student full name, student number, subject code, subject title in **text fields**, and should allow the user to enter the declaration in the **text area**.

The web page should display a **button** "JSON stringify". When the user clicks the button, do the following tasks:

1. Create a **Javascript object** that contains all the information that the user has entered.

2. Translate the object into **JSON string with indentation.**

3. Display the JSON string in the **text area**.

Question 4. (4%) Download the JSON file `Question4.json` from Moodle with the following content:


```
{
  "studentRefNumber": "BGX8P21R5",
  "testResult": [
    {
      "questionNumber": 1,
      "content": "Read a table to solve a problem",
      "topic": "Chance & Data",
      "correctAnswer": "C",
      "yourAnswer": "C",
      "difficultyLevel": 1
    },
    {
      "questionNumber": 2,
      "content": "Calculate the perimeter of a shape",
      "topic": "Measures & Units",
      "correctAnswer": "B",
      "yourAnswer": "B",
      "difficultyLevel": 2
    },
    {
      "questionNumber": 3,
      "content": "Solve a word problem involving speed of a vehicle",
      "topic": "Algebra & Patterns",
      "correctAnswer": "C",
      "yourAnswer": "A",
      "difficultyLevel": 2
    },
    {
      "questionNumber": 4,
      "content": "Solve a word problem involving multiple additions",
      "topic": "Algebra & Patterns",
      "correctAnswer": "C",
      "yourAnswer": "C",
      "difficultyLevel": 3
    },
    {
      "questionNumber": 5,
      "content": "Identify a shape reflected about a given axis",
      "topic": "Space & Geometry",
      "correctAnswer": "A",
      "yourAnswer": "D",
      "difficultyLevel": 5
    },
    {
      "questionNumber": 6,
      "content": "Solve a complex problem involving time",
      "topic": "Measures & Units",
      "correctAnswer": "D",
```

```
      "yourAnswer": "A",
      "difficultyLevel": 3
    },
    {
      "questionNumber": 7,
      "content": "Solve a complex problem involving fractions",
      "topic": "Number & Arithmetic",
      "correctAnswer": "B",
      "yourAnswer": "B",
      "difficultyLevel": 4
    },
    {
      "questionNumber": 8,
      "content": "Solve a complex equation involving two variables",
      "topic": "Number & Arithmetic",
      "correctAnswer": "C",
      "yourAnswer": "B",
      "difficultyLevel": 5
    },
    {
      "questionNumber": 9,
      "content": "Identify an object shown from a different position",
      "topic": "Space & Geometry",
      "correctAnswer": "B",
      "yourAnswer": "B",
      "difficultyLevel": 4
    },
    {
      "questionNumber": 10,
      "content": "Translate data table into a graph",
      "topic": "Chance & Data",
      "correctAnswer": "A",
      "yourAnswer": "A",
      "difficultyLevel": 1
    }
  ]
}
```


Create a web page `Question4.html`.
On the web page, display a button “Get Test Result”.
When the user clicks this button, use an AJAX call to get the JSON file, parse the JSON into a Javascript object, and then display the Javascript object on the web page as follows:

Get Test Result

Test result. Student Reference Number: BGX8P21R5

You scored 6 out of 10.

Question	Content	Topic	Correct Answer	Your Answer	Difficulty
1	Read a table to solve a problem	Chance & Data	C	✓	★
2	Calculate the perimeter of a shape	Measures & Units	B	✓	★★
3	Solve a word problem involving speed of a vehicle	Algebra & Patterns	C	A	★★
4	Solve a word problem involving multiple additions	Algebra & Patterns	C	✓	★★★
5	Identify a shape reflected about a given axis	Space & Geometry	A	D	★★★★★
6	Solve a complex problem involving time	Measures & Units	D	A	★★★
7	Solve a complex problem involving fractions	Number & Arithmetic	B	✓	★★★★
8	Solve a complex equation involving two variables	Number & Arithmetic	C	B	★★★★★
9	Identify an object shown from a different position	Space & Geometry	B	✓	★★★★
10	Translate data table into a graph	Chance & Data	A	✓	★

Important implementation requirements:

1. Difficulty level must be displayed using the star. The HTML Entity code for the star is 11088
2. Correct answer must be displayed using the green tick. The HTML Entity code for the tick is 10003
3. Question number with incorrect answer must be displayed in a grey background
4. All alignment must be exactly as the above example
5. The score message must be displayed correctly **above** the result table.

Submission: submit both files: `Question4.json` and `Question4.html`.

END OF THE ASSIGNMENT