My Coding include two parts, HTML and JavaScript, there are all in one file.

In the HTML file, I just create a button and a table, the button is used to active the event to call the backend functions, the table is use to display the data.

In JavaScript part, the functions and description list below:

**Using AJAX Function**

I make an anonymous function to using AJAX function to retrieve data from server with a browser built-in XMLHttpRequest object. After the server (some web API) process, then send the response back.

The function I was created is

var HttpClient = function(){…}

inside this function it will use the AJAX function to retrieve the data form API and one callback function can be used by each AJAX tasks.

I use the function getStory(), getItem (Id) and getUser (UId) to call this anonymous function and used the callback function by each AJAX tasks.

**Where do I use the First, Second and Third API**

I used first API to retrieve the story data on my getStory() function, then used the second API to retrieve the item data with getItem (Id) function by the story id which geted from getStory() function. The third ApI was used in the getUser() function.

**Get Random Story data**

Insise the getStory() function when I retrieve the data from first API, I need to get random ten of them, I get them by using this function below,

Math.floor(Math.random() \* (max - min + 1)) + min;

Inside this function, first it is use the Math Object and performs its random function to general random value between the max and min. Then use the floor() method rounds a number DOWNWARDS to the nearest integer, and returns the result.

I used the returns result as the index of the Story data to get the exactly data. The Random() function will be called ten times to get ten random story data.

**The getItem() function**

Then I make a call to the function getItem(Id).

This function will retrieve the data from Item API by using the story ID, when I get each of the data; I put them into an Array. The data in the Array need to be sorted by the score.

**Sorting data**

I just used this function for sorting data

data.sort(function(a, b){return a.score-b.score});

Inside this sort function it has a compared function to company the data each other and return the result ascendingly. I just pass the data get from getItem() function to it then get sorted result.

**The getAllUser() function**

After I get the sorted result, I make a call to the function getAllUser().

In this function, I just call getUser() function by using sorted item id through the third API to get the user data. I put the data’s two parameter into two Arrays, one Array store the user Id, another Array store the user karma score.

**The RealTiming() function**

This function is used for the time converting from Unix Time, I use the Data() function of javascript to get timestamp data then converter it to hour, minute and second.

**Data Binding**

Then I make the call to function dataBinding(), this function just binding data to the HTML. Because I already have three Array to store the data which can be used for binding. One store the item sorted result which came from sort function(). Another two is user id Array and user karma score Array which get from getUser() function. Then I used the dynamic binding to fetch each Array data and put them inside the cell of the row. Of course the row is belonging to a table in the HTML file.

**The main function**

I have one button which can be clicked on the webpage, when the user click the button, the required will display on the web page and all the useful function behind will be called. I just put the getStory() and SortScore() function inside it.

**The time delay**

The time delay I am using on the function calls. I just first call the getStory() and getItem() function first. Then I make a delay to 1 second, after that I make a call to the sortScore() function. I am making delay because I need to wait for the getStory() and getItem() function to finished processing, then get the necessary data. Otherwise, I will not get the real data.

**The trouble I have met**

The big trouble I have met is loading all data at the same time. Because the data was not collected at the same, some of them must wait for other function first finished, and then continue. In order to resolve this, I make a delay between the first and second function in the main function. I also reduce the unnecessary for loop inside the function, because it cost the time when looping. Instead, I just set the index value directly to the array to get data.