CS385 Mobile Application Development 2023/2024

Lab Session #1 – 6th October 2023

There are engagement continuous assessment marks linked to this assignment. You can complete this assignment outside of lab times. Please refer to Lecture 1 for full details.

You must upload your solutions to Moodle (The link is on the Moodle Section for this Lab) by 15:59 Tuesday 10th October 2023. Remember, you can upload partial solutions. You do not need to upload fully working solutions. A video of how to upload your solutions is available on Microsoft Stream (link) This is also available on Moodle.

Please name your files as .txt files when you are uploading to Moodle.

Lab Description

Today we start working with React and Javascript in the Lab. We have seen React and Javascript in the Lecture 2, 3 and 4. You should use the examples provided in these lectures as a basis for completing the tasks below.

You should use the React/Javascript TEMPLATE as provided in **`Lab1_Template.txt`** from the Moodle page. This will be copied directly into codesandbox.io – when you have successfully copy-pasted this into codesandbox you are ready to start working.

TASK 1.

Write code into the template **`Lab1_Template.txt`** Mobile Application for the following:

Declare three variables called **alpha, beta** and **gamma** as integers and assign them integer values 20, 100, and 1000. Declare two string variables called **x** and **y** and assign them the string values "CS385" and "App Development" respectively.

In your **App()** function write code which will render the following onto the mobile application user interface:

- The numerical value of the **sum** of alpha, beta and gamma
- The numerical value of the **product** of alpha, beta and gamma
- The numerical value of the **sum of the three integer variables** multiplied by 10.
- The two strings **x** and **y**
- The string **x** in upper case
- The string **y** in lower case.

REFERENCE MATERIALS – Lecture 2

TASK 2.

On Moodle you will find a Javascript file (named **`companies.js`**) with a large array of objects called '**`companies`**'. This file contains a large array (101 elements) containing Javascript objects. These objects represent companies. The properties of these objects describe: **`cid`** (the unique company ID), **`company`** (the company name), **`employees`** (the number of employees in the company) and **`material`** (the type of construction material that the company manufactures).

Start over with a new empty Mobile Application (using the empty template provided in **`Lab1_Template.txt`**)

Write React/Javascript code to perform the following actions:

- Import the '**`companies`**' array into your **`App.js`** file by creating a separate js file within the src folder on CodeSandBox.
- **[TASK 2 PART A]** Write a **map** function which renders or prints out every object in the **`companies`** array. You should print out ALL of the properties of each object.
- **[TASK PART B]** Write a filter function which only prints out or renders objects in the '**`companies`**' array by filtering based on the **`employees`** property. For example, if you typed in the value of 400 then the map function would only render objects in the '**`companies`**' array where the **`employees`** property is greater than or equal to 400.
- **[TASK PART C]** Write a filter function which only renders objects in the companies array by filtering based on the **`company`** property (that's the company name). You should be able to specify a partial string as a parameter. Then any company object which has a **`company`** property containing that string will be rendered.

REFERENCE MATERIAL – Lecture 4

UPLOADING YOUR SOLUTIONS

- You can upload separate files for each task or a single file into Moodle. It is strongly advised that you simply copy your code from CodeSandBox.io into a notepad (or otherwise) text editor. Save your files as txt files. This is the simplest way to do this.
- DO NOT USE WORD DOCUMENTS. Programmers do not copy-paste code into MS Word Documents.