BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
School of Computing and Academic Studies

COMP1536

Due: At the end of the lab period

You are expected to complete the exercise during your lab session, show your instructor your work, and submit it into D2L. If you do not finish, then submit whatever you have by 8:00 PM on the following day of your lab for late marking. This will, however, cost you a deduction of 10% of the maximum mark.

PHP SESSION MANAGEMENT

You will build a PHP application that revolves around a math game:

The user is given a random math question that involves the addition or subtraction of two numbers. These are the rules you must adhere to regarding questions asked:

- The numbers and operators (addition and subtraction) are generated randomly. Each randomly generated number must be an integer ranging from 0 to 20. Note that both 0 and 20 are included in this range.

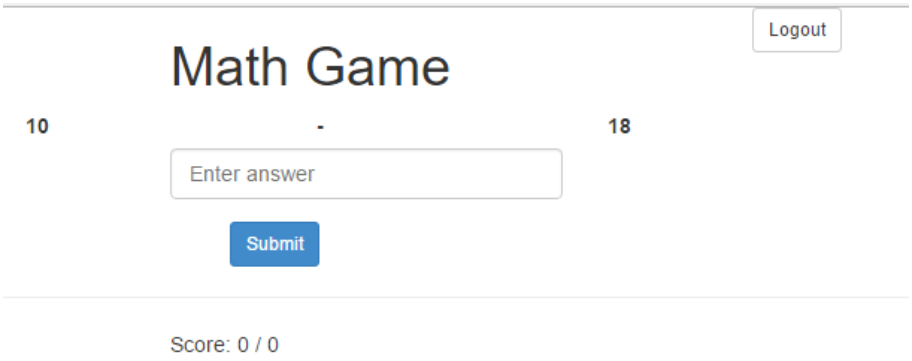
  NOTE: It is not hard to extend the math game to do multiplication and division. This was not done for simplicity's sake.

- The user is asked a question (like 9 + 3) and is presented with a text box for the answer. The user enters and answer, then clicks on a button and it tells if he/she got it right or wrong and subsequently asks another question. The game continues asking more questions indefinitely and never ends.
- A user must login to play the math game.
- The main page of your application should be named *index.php*.

JOURNEY

Your application will behave like http://1536.azurewebsites.net, which is deployed on Azure:

- Login with credentials email=**a@a.a** and password=**aaa**. These credentials are hard coded and are not saved in any database or text file. Of course, this is not what is done in the real world. You must create these same credentials in your solution so that your instructor knows what username & password to use when testing your application.
- If you enter the proper credentials, then a session variable is set and you will see the main page like this:



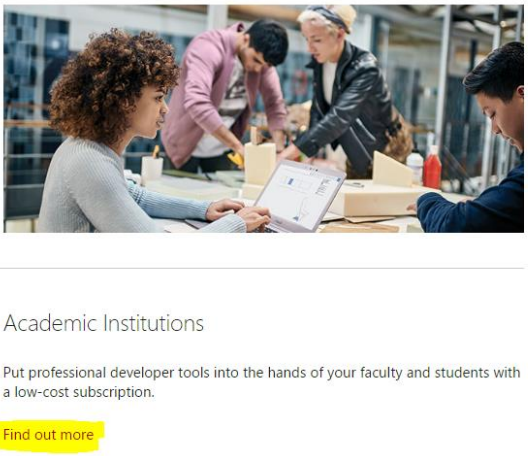
- When you enter an answer, and click on *Submit*, the application with tell you whether your answer is correct. It then keeps a score and continues asking you more questions. This continues indefinitely.
- At any time, you can click on *Logout*. Internally, this simply invalidates a session variable.

It is not necessary that your application looks exactly as the demo. However, it should have the same functionality.

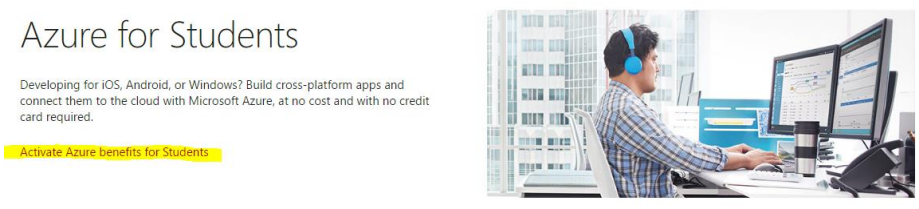
CREATING AN AZURE ACCOUNT:

NOTE: You need a Microsoft account to get an Azure account. Microsoft accounts involve domain names outlook.com, live.com, and Hotmail.com.

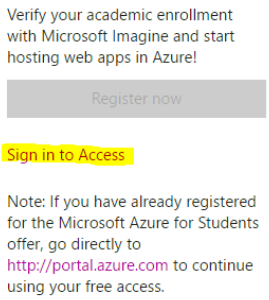
- Go to https://imagine.microsoft.com. Scroll down and click on the "*Find out more*" link under "*Academic Institutions*".



- Scroll down on the next page and click on the "*Activate Azure benefits for Students*" under "*Azure for Students*":



- Click on "*Sign in to Access*" on the next page.



- Follow the instructions until you get approved.

GITHUB

It is assumed that you all have a GitHub account because this topic was covered inn COMP1111. After you build your application, you will push it into GitHub.

- Go to http://github.com
- Create a repo named *mathgame*.
- Push the application from your local machine to the *mathgame* repo on GitHub. Here is a summary of the *git* commands you need to execute in the root of your app:

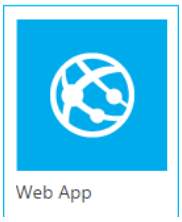
```
git init
git add .
git commit -m "first commit"
git remote add origin https://github.com/{your github username goes here}/mathgame.git
git push -u origin master
```

- You can check GitHub to verify that your code has indeed got into GitHub.

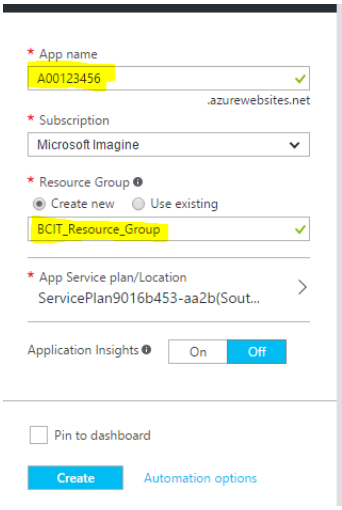
CREATE WEB APP ON AZURE

Once you have your application on GitHub and are in possession of an Azure account, you can go ahead and deploy it.

- Login to the Azure portal at http://portal.azure.com
- Click on "*App Services*" on the left side. This is represented by a globe icon.
- Click on the "+ *Add*" button at the top, then choose "*Web App*"



- Click on the blue "*Create*" button on the next blade.



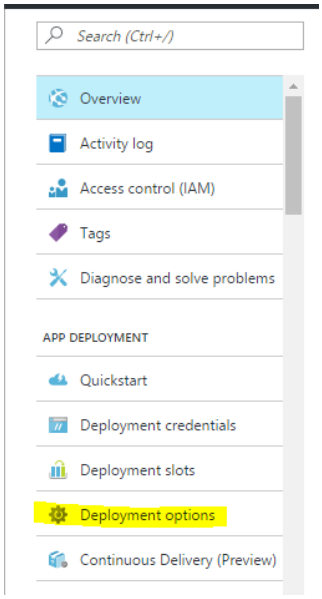
- Enter the following data:

App name	Enter your BCIT A00.. number. This means that your A00.. number will be the host name of your website.
Resource Group	BCIT_Resource_Group. The reality is that you can give the resource groupany name you like.

- After you enter the above information, click on the blue *Create* button.
- It does not take long for a website to be provisioned. Click again on the "*App Services*" icon on the left-side and you should see the newly created web application:

LINKING GITHUB TO AZURE

- While in Azure, click on your web application represented by your A00.. number
- In the middle blade, find and click on "*Deployment Options*"



- Click on "*Choose Source*" then "*GitHub By HitHub*".
- Click on *Authorization* to have Azure authenticate with GitHub.
- Click on "*Choose project*" and choose your A00.. project on GitHub
- Once the *OK* button is lighted, then click on it. If you click on "*Deployment Options*" again, you will notice that a deployment is happening. When it is done, you will see a green check mark. This means that your PHP website is deployed and you can go to it using a URL like http://a00123456.azurewebsites.net.

HINTS:

- The PHP *rand(0,20)* function will randomly return a number between 0 and 20. Both 0 and 20 are included.
- Every PHP page must start with *session_start()*.
- The string concatenation operator is . (period) in PHP.
- Use the PHP *isset()* function to check whether or not a variable exists.
- Use the PHP *is_numeric()* function to check whether or not a field is numeric.
- The PHP command to redirect to *index.php* is: *header("Location: index.php"); die();*

SUBMISSION

- Show your work to the lab instructor who will give you a mark on the spot.
- Place a *readme.txt* file in the route of your application and put in it the fully qualified URL of your deployed application (Example: http://a00123456.azurewebsites.net).
- Zip all the files comprising your web site to filename *LastName_FirstName_set_week13.zip*. (example: *Doe_Jane_1B_week13.zip)*.
- Upload the ZIP file to the *Week-13* dropbox in D2L. While doing so, enter a comment in the dropbox with the URL of your website.

COMP1536 PHP STATE MANAGEMENT AND DEPLOYMENT MARKING GUIDE:

Name _____ Set _____

Task	Max Mark	Actual Mark
Math Game works as expected	3	
Login and Logout works as expected	3	
Application is deployed to Azure	4	
TOTAL:	10	