Lab 01

Task 1: Set up and test your user account on the web server (10 marks)

To access a webpage or run a server-side script such as a PHP script, we first need to use a SFTP (Secure FTP) client software to upload the files onto the Web server. For Windows OS, WinSCP (https://winscp.net/) can be used. For Mac OS, Cyberduck (https://www.ssh.com/academy/ssh/cyberduck) can be used.

Step 1: Enable AUT remote internet service (if accessing the server outside AUT campuses)

If accessing the web server remotely (not in AUT intranet), log into the AUT distance internet service from https://distance.aut.ac.nz/login.cgi. Otherwise skip this step.

Step 2: Connect to the server to transfer files.

- Launch WinSCP. WinSCP is available on all lab computers or otherwise be installed on your own machine. It can be found by clicking *Windows Start Button* (left corner) and then typing *winscp*.
  (NB: In case WinSCP is not installed on the computer you are using, you can also download a portable version (no install required) from *http://jiyu.cmslamp14.aut.ac.nz/wd/software/winscp.zip*)
- Using WinSCP, log on to the server with the host name '*cmslamp14.aut.ac.nz*', user name: `<Your AUT Network Login>` and the password: `<Your AUT Network Password>`.
- After a successful log in, you will be brought to the directory */home/<your student ID>/public_html,* which is the root directory of your web account.

NB: The file storage capacity for each student is 1GB.

Step 3: Create a folder (directory) to contain your web pages.

It is recommended that we create a folder for each lab/web project. For instance, we should create a folder named 'lab01' to contain all files that we will be developing for this lab.

Note that the web server name, *cmslamp14*, is case sensitive, thus it is recommended that you use lower case and avoid non-alphanumeric characters such as space when naming folders.

Using WinSCP, create a folder '*lab01'*under */home/<your student ID>/public_html* folder in cmslamp14.

Step 4: Create a web page for testing.

Use any text editor on your local computer (e.g. NotePad++), or an online editor (e.g. http://sandbox.onlinephpfunctions.com/) to create a file named myphp.php and code the following:

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en" >
<head>
<meta http-equiv= content-type  content= text/html; charset=utf-8  />
<meta name="description" content="Web Development :: Lab 1" />
<meta name="keywords" content="web,development" />
<title>My first web page</title>
</head>
<body>
<h1>Web Development Lab 1</h1>
<p>Can I create a .php file that do not contain any PHP scripts?</p>
<p>Yes, but this should be avoided, so that the server does not do any
unnecessary parsing and processing.</p>
</body>
</html>
```

Step 5: Transfer your web pages to the web server.

Using WinSCP, drag and drop the file 'myphp.php' from your local machine to the */home/<your student ID>/public_html/lab01* folder.

Step 6: Test and view web pages.

To view the pages through http, use any Web browser and type in the following address,

http://<StudentID>.cmslamp14.aut.ac.nz/lab01/myphp.php, for example, http://jiyu.cmslamp14.aut.ac.nz

Task 2: Develop a PHP web page (0 mark)

Step 1:

Use a text editor to create a file named **`functions.php`**

Add basic *html* tags along with the *meta* tag at the top of the page as follows:

```
<html>
<head>
<title>PHP Functions</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
</head>
<body>
</body>
</html>
```

Step 2:

Add a suitable heading for your page using `<h1>` element after the `<body>` start tag

Also add a PHP *code block* using *standard script delimiter* after the page heading as follows:

```
<h1>Use of PHP built-in functions</h1>
<?php
?>
```

Step 3:

Now add some PHP code inside the *script delimiters*:

For example, use *abs()* built-in function which calculates absolute value of an integer and *pow()* function which calculates the value of x to the power of y. Use the *echo* statement to print the results

(Note: It is good practice to include useful comments in your code):

```
<?php
  /* Use of abs() and pow() built-in functions, and echo statement. */
  echo "<p>Absolute value of -9 is: ", abs (-9),".</p>";
  echo "<p>2 to the power of 5 is : ", pow(2,5),".</p>";
?>
```

Step 4:
Save the file as "***functions.php***", if a file name has not been assigned yet.
Use WinSCP client to upload this file to 'lab01' folder that you already created on your cmslamp14 server.

Step 5:
Use any Web browser to run the PHP file by typing in following address:
http://<StudentID>.cmslamp14.aut.ac.nz/lab01/funcitons.php

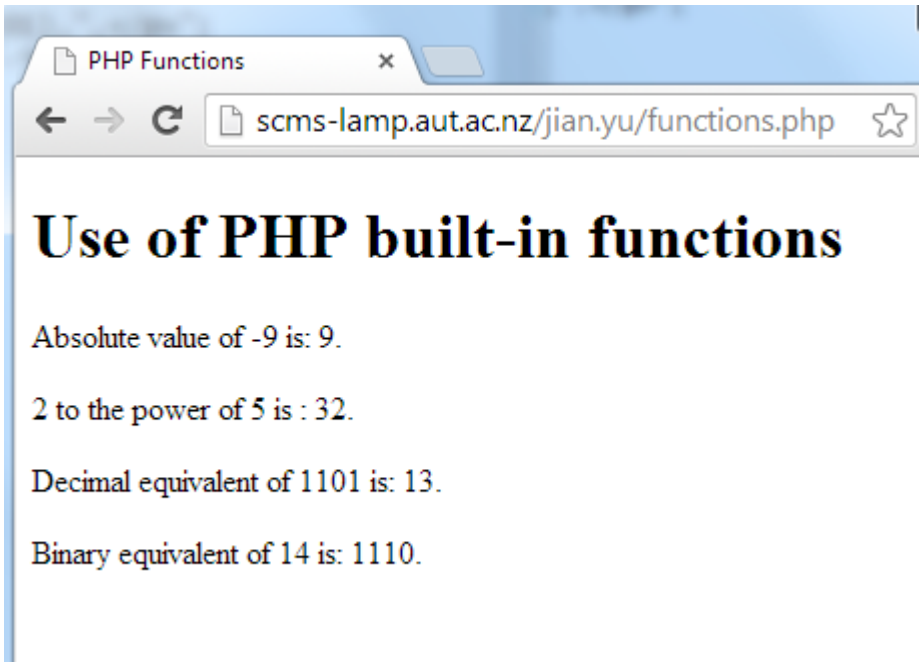
Step 6:
Try more built-in functions, such as *decbin()* and *bindec()*.
Add another PHP *code block* that uses a *standard script delimiter* and *echo* statements to print binary to decimal and decimal to binary conversions, using above two functions:

```
<?php
  /* Use of decbin() and bindec() functions. */
  echo "<p>Decimal equivalent of 1101 is: ", bindec(1101),".</p>";
  echo "<p>Binary equivalent of 14 is: ", decbin(14),".</p>";
?>
```

The complete program should look something like this:

```
<!DOCTYPE html>
<html>
<head>
<title>PHP Functions</title>
<meta http-equiv="Content-Type"
content="text/html; charset=utf-8" />
</head>
<body>
<h1>Use of PHP built-in functions</h1>
<?php
/* Use of abs() and pow() built-in functions, and echo statement. */
echo "<p>Absolute value of -9 is: ", abs (-9),".</p>";
echo "<p>2 to the power of 5 is : ", pow(2,5),".</p>";
?>
<?php
/* Use of decbin() and bindec() functions. */
echo "<p>Decimal equivalent of 1101 is: ", bindec(1101),".</p>";
echo "<p>Binary equivalent of 14 is: ", decbin(14),".</p>";
?>
</body>
</html>
```

The screen shot below shows the final output of **functions.php**.



Extra Exercises:

Note: These exercises are strongly recommended if you are not familiar with HTML and CSS.

1. **Work on HTML & CSS Review (see HTML_Review.pdf) and do the enclosed examples on your own webpage.**

2. **Work on a HTML Table exercise (see Table_Exercise.pdf)**