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 upload the files onto the Web server. At AUT, we use WinSCP, which is a secure FTP client software, to upload files to the Web server.

Step 1: Connect to the server to transfer files.

- Launch WinSCP. WinSCP is a Secure file transfer client, it is available on all lab computers. It can be found by clicking *Windows Start Button* (left corner) and then typing *winscp*.
- Using WinSCP, log in to the server with the host name '*cmslamp14.aut.ac.nz*', user name *<your student ID>* and the password *<your AUTOnline 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.
  Note that the file storage capacity for each student is 1GB

Step 2: 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 3: Create a web page for testing.

Use any text editor on your local computer (e.g. NotePad++) 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 4: 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 5: 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 any text editor on your local computer (e.g. NotePad++) 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 in your mercury account.

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
<?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:

```html
<!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**.