

CO551  
Open Source Systems

# Logbook

*21606555*

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*Computing & Web Development*  
Buckinghamshire New University

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## Section 1

## Week 1

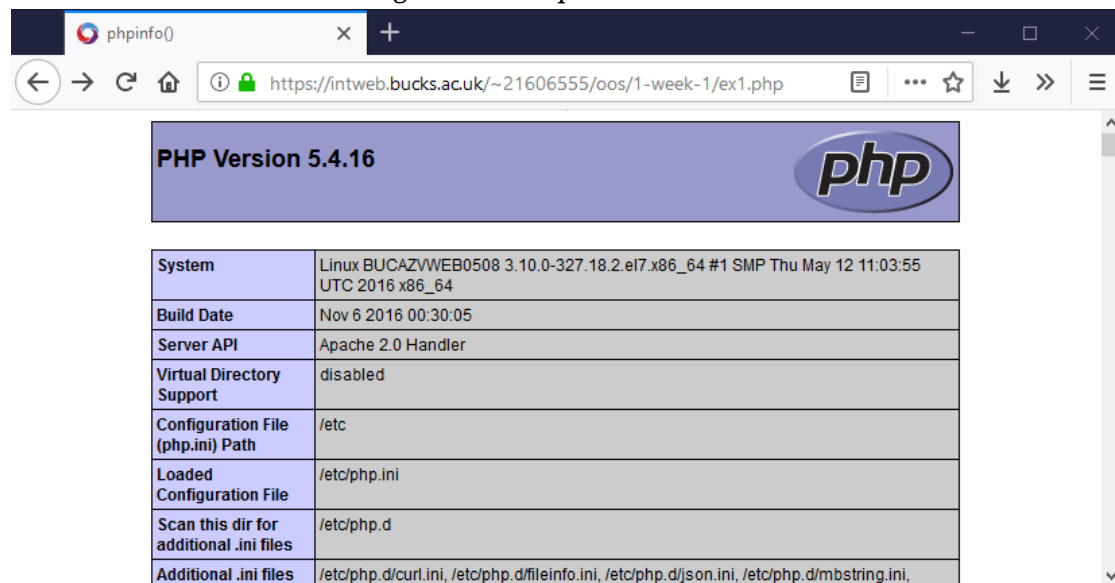
### 1.1 Exercise 1

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex1.php>

Figure 1.1: ex1.php

```
1 <?php phpinfo(); ?>
```

Figure 1.2: Output of exercise 1



PHP Version 5.4.16	
System	Linux BUCAZVWEB0508 3.10.0-327.18.2.el7.x86_64 #1 SMP Thu May 12 11:03:55 UTC 2016 x86_64
Build Date	Nov 6 2016 00:30:05
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files	/etc/php.d/curl.ini, /etc/php.d/fileinfo.ini, /etc/php.d/json.ini, /etc/php.d/mbstring.ini,

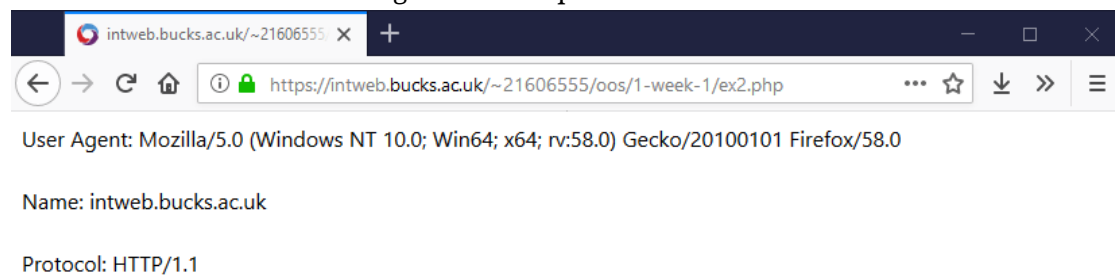
## 1.2 Exercise 2

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex2.php>

Figure 1.3: ex2.php

```
1 User Agent:
2 <?php echo $_SERVER["HTTP_USER_AGENT"]; ?>
3 <br><br>
4 Name:
5 <?php echo $_SERVER["SERVER_NAME"]; ?>
6 <br><br>
7 Protocol:
8 <?php echo $_SERVER["SERVER_PROTOCOL"]; ?>
```

Figure 1.4: Output of exercise 2



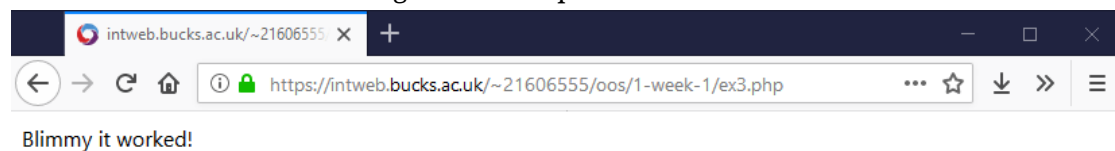
## 1.3 Exercise 3

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex3.php>

Figure 1.5: ex3.php

```
1 <html>
2   <body>
3     <?php echo "Blimmy it worked!"; ?>
4   </body>
5 </html>
```

Figure 1.6: Output of exercise 3



## 1.4 Exercise 4

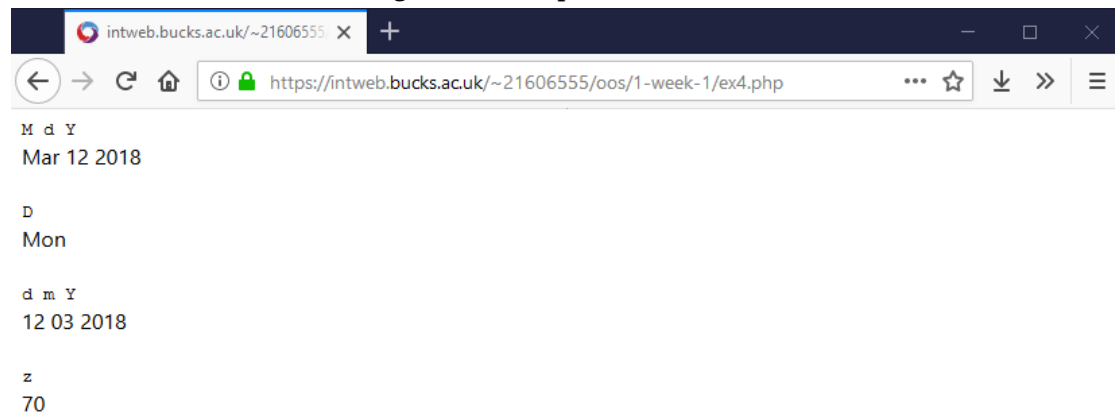
The last argument of `gmdate()` allows you to provide a specific date to format. This argument is optional and will use the current date and time if it is not provided.

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex4.php>

Figure 1.7: ex4.php

```
1 <html>
2   <body>
3     <code>M d Y</code><br>
4     <?php echo gmdate("M d Y"); ?>
5
6     <br><br><code>D</code><br>
7     <?php echo gmdate("D"); ?>
8
9     <br><br><code>d m Y</code><br>
10    <?php echo gmdate("d m Y"); ?>
11
12    <br><br><code>z</code><br>
13    <?php echo gmdate("z"); ?>
14  </body>
15 </html>
```

Figure 1.8: Output of exercise 4



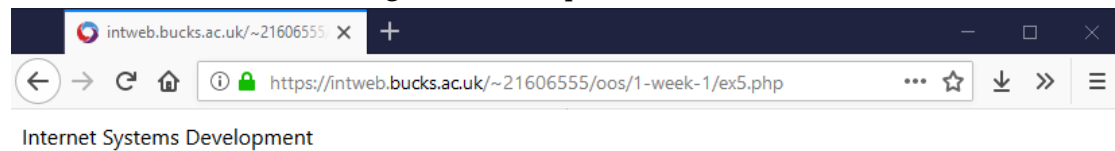
## 1.5 Exercise 5

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex5.php>

Figure 1.9: ex5.php

```
1 <html>
2   <body>
3     <?php
4       $myFavouriteModule = "Internet Systems Development";
5       echo $myFavouriteModule;
6     ?>
7   </body>
8 </html>
```

Figure 1.10: Output of exercise 5



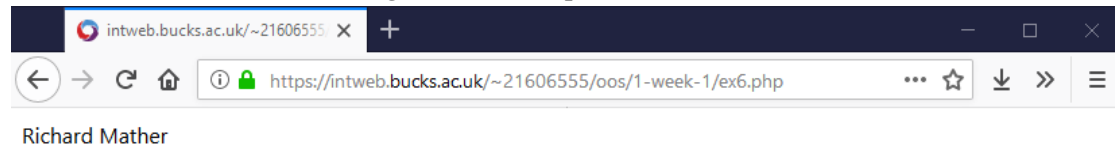
## 1.6 Exercise 6

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex6.php>

Figure 1.11: ex6.php

```
1 <html>
2   <body>
3     <?php
4       $firstName = "Richard";
5       $lastName = "Mather";
6       $space = " ";
7       $name = $firstName . $space . $lastName;
8       echo $name;
9     ?>
10  </body>
11 </html>
```

Figure 1.12: Output of exercise 6



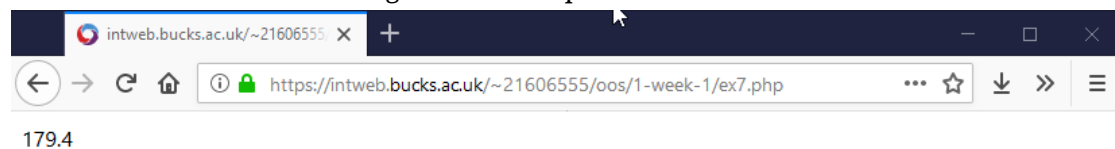
## 1.7 Exercise 7

<https://intweb.bucks.ac.uk/~21606555/oos/1-week-1/ex7.php>

Figure 1.13: ex7.php

```
1 <html>
2   <body>
3     <?php
4       $hourlyRate = 5.75;
5       $hoursPerWeek = 40;
6       $gross = $hourlyRate * $hoursPerWeek;
7
8       $taxRate = 1 - 0.22;
9       $netWage = $gross * $taxRate;
10      echo $netWage;
11    ?>
12  </body>
13 </html>
```

Figure 1.14: Output of exercise 7





## Section 2

# Syntax

### 2.1 Exercise 1

Converted the shorthand PHP tags (<? . . . ?>) to <?php . . . ?> as IntWeb has disabled the language feature.

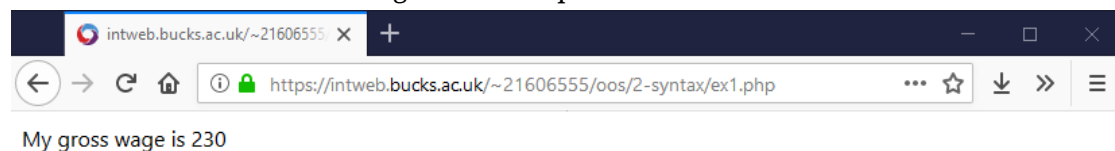
<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex1.php>

Figure 2.1: ex1.php

```
1  <?php
2      $hourlyRate = 5.75;
3      $hoursPerWeek = 40;
4      $gross = $hourlyRate * $hoursPerWeek;
5  ?>

6  <html>
7      <body>
8          <p>My gross wage is <?php print "$gross"; ?></p>
9      </body>
10 </html>
```

Figure 2.2: Output of exercise 1



## 2.2 Exercise 2

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex2.php>

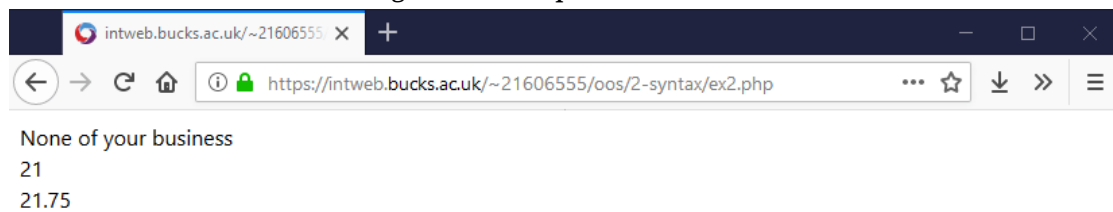
Figure 2.3: ex2.php

```
1 <?php
2     $myAge = "None of your business<br>";
3     print $myAge;

4     $myAge = 21;
5     print $myAge . "<br>";

6     $myAge = 21.75;
7     print $myAge;
8 ?>
```

Figure 2.4: Output of exercise 2



## 2.3 Exercise 3

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex3.php>

Figure 2.5: ex3.php

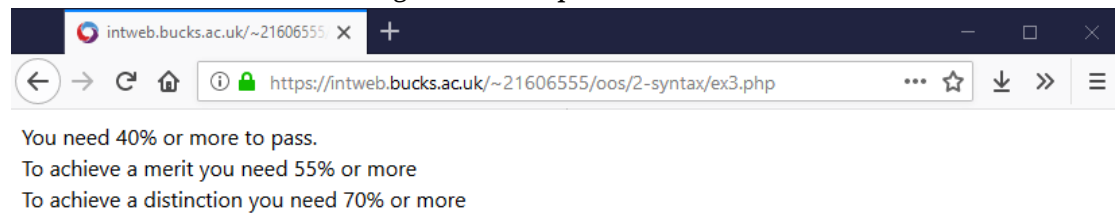
```
1 <?php
2     define("PASS_GRADE", 40);

3     echo "You need " . PASS_GRADE . "% or more to pass.<br>";

4     $grade = PASS_GRADE + 15;
5     echo "To achieve a merit you need $grade% or more<br>";

6     $grade = PASS_GRADE + 30;
7     echo "To achieve a distinction you need $grade% or more<br>";
8 ?>
```

Figure 2.6: Output of exercise 3



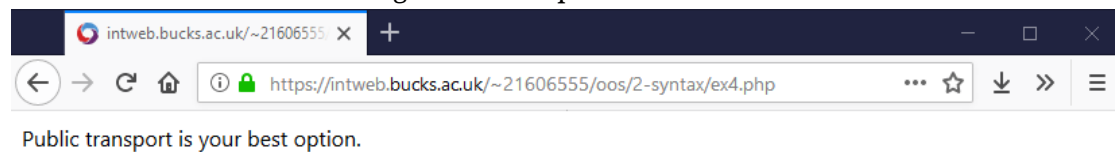
## 2.4 Exercise 4

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex4.php>

Figure 2.7: ex4.php

```
1 <!-- Speed camera advise script -->
2 <?php
3     $points = 13;
4     // Output appropriate message depending on points awarded.
5     if ($points >= 12) {
6         echo "Public transport is your best option.<br>";
7     } elseif ($points >= 9) {
8         echo "If you get caught you say your grandmother was driving.<br>";
9     } else {
10        echo "There is no need to worry about the speed limit.<br>";
11    }
12 ?>
```

Figure 2.8: Output of exercise 4



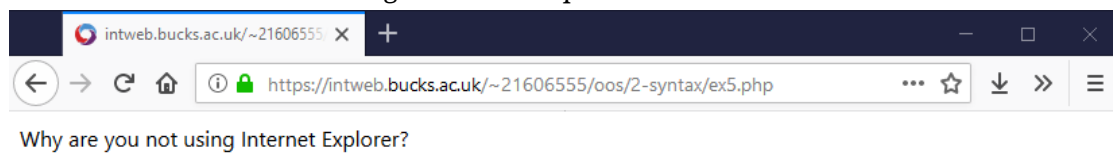
## 2.5 Exercise 5

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex5.php>

Figure 2.9: ex5.php

```
1 <?php
2     if (strpos($_SERVER["HTTP_USER_AGENT"], "MSIE") != false) {
3         echo "You are using Internet Explorer";
4     } else {
5         echo "Why are you not using Internet Explorer?";
6     }
7 ?>
```

Figure 2.10: Output of exercise 5



## 2.6 Exercise 6

If an index position isn't specified when assigning a value to an array then the value is inserted after the last index position in the array. In this case, 76 is inserted into the 4th index.

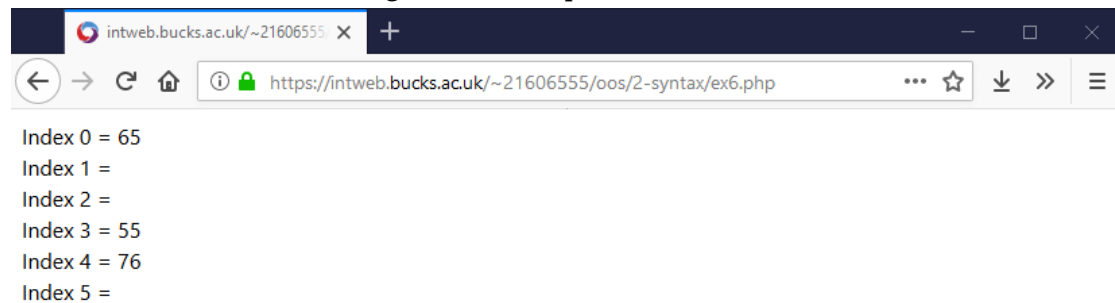
<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex6.php>

Figure 2.11: ex6.php

```
1 <?php
2     $marks[0] = 65;
3     $marks[3] = 55;
4     $marks[] = 76;

5     echo "Index 0 = $marks[0]<br>";
6     echo "Index 1 = $marks[1]<br>";
7     echo "Index 2 = $marks[2]<br>";
8     echo "Index 3 = $marks[3]<br>";
9     echo "Index 4 = $marks[4]<br>";
10    echo "Index 5 = $marks[5]<br>";
11 ?>
```

Figure 2.12: Output of exercise 6



## 2.7 Exercise 7

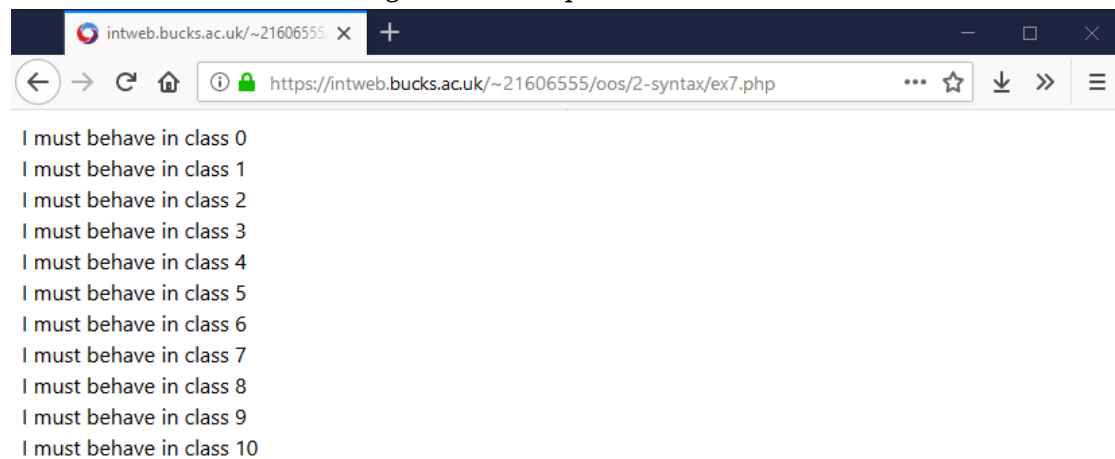
11 lines will be displayed as it will loop from 0 until it reaches 10.

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex7.php>

Figure 2.13: ex7.php

```
1 <?php
2     for($count = 0; $count <= 10; $count++) {
3         echo "I must behave in class $count<br>";
4     }
5 ?>
```

Figure 2.14: Output of exercise 7



## 2.8 Exercise 8

Fixed the for loop syntax where a comma was used instead of a semi-colon.

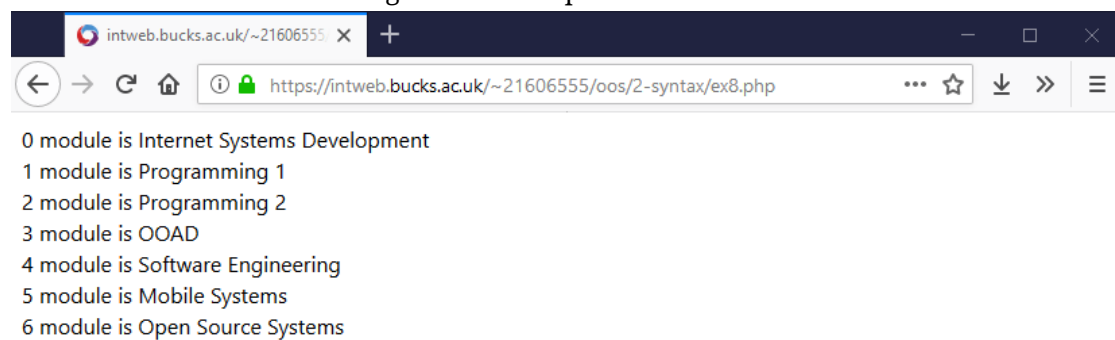
<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex8.php>

Figure 2.15: ex8.php

```
1 <?php
2 $topModules[0] = "Internet Systems Development";
3 $topModules[1] = "Programming 1";
4 $topModules[2] = "Programming 2";
5 $topModules[3] = "OOAD";
6 $topModules[4] = "Software Engineering";
7 $topModules[5] = "Mobile Systems";
8 $topModules[6] = "Open Source Systems";

9 for($count = 0; $count < sizeof($topModules); $count++) {
10     echo "$count module is $topModules[$count]<br>";
11 }
12 ?>
```

Figure 2.16: Output of exercise 8





## 2.9 Exercise 9

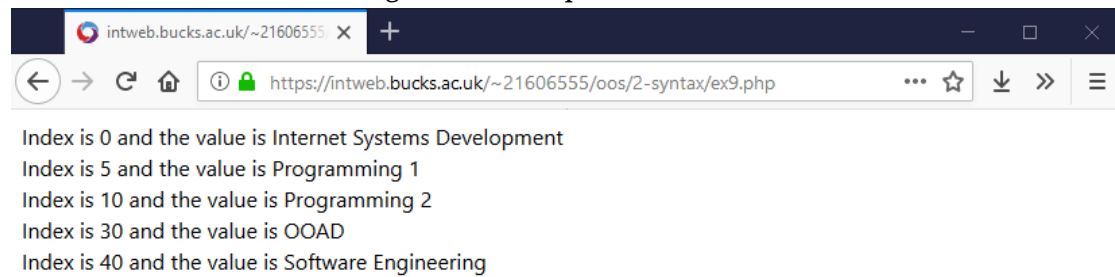
<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex9.php>

Figure 2.17: ex9.php

```
1  <?php
2      $topModules[0] = "Internet Systems Development";
3      $topModules[5] = "Programming 1";
4      $topModules[10] = "Programming 2";
5      $topModules[30] = "OOAD";
6      $topModules[40] = "Software Engineering";

7      while(list($index, $value) = each($topModules)) {
8          echo "Index is $index and the value is $value<br>";
9      }
10  ?>
```

Figure 2.18: Output of exercise 9



## 2.10 Exercise 10

This has been revised to be displayed in a table from the exercise 12 task.

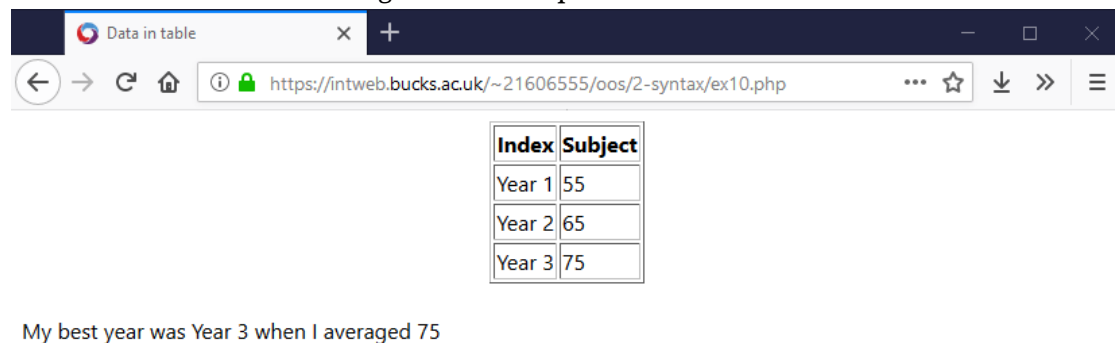
<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex10.php>

Figure 2.19: ex10.php

```
1  <?php
2      $myMarks["Year 1"] = 55;
3      $myMarks["Year 2"] = 65;
4      $myMarks["Year 3"] = 75;
5  ?>

6  <html>
7      <head>
8          <title>Data in table</title>
9      </head>
10     <body>
11         <table border=1 align=center>
12             <tr>
13                 <th>Index</th>
14                 <th>Subject</th>
15             </tr>
16             <?php
17                 while(list($index, $value) = each($myMarks)) {
18                     echo "<tr><td>$index</td><td>$value</td></tr>";
19                 }
20             ?>
21         </table>
22         <?php echo "<br>My best year was Year 3 when I averaged " . $myMarks["Year 3"]; ?>
23     </body>
24 </html>
```

Figure 2.20: Output of exercise 10



Index	Subject
Year 1	55
Year 2	65
Year 3	75

My best year was Year 3 when I averaged 75

## 2.11 Exercise 11

I opted to use the `sizeof` function to calculate the averages so that the average will always be correct if marks are removed or added to the array.

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex11.php>

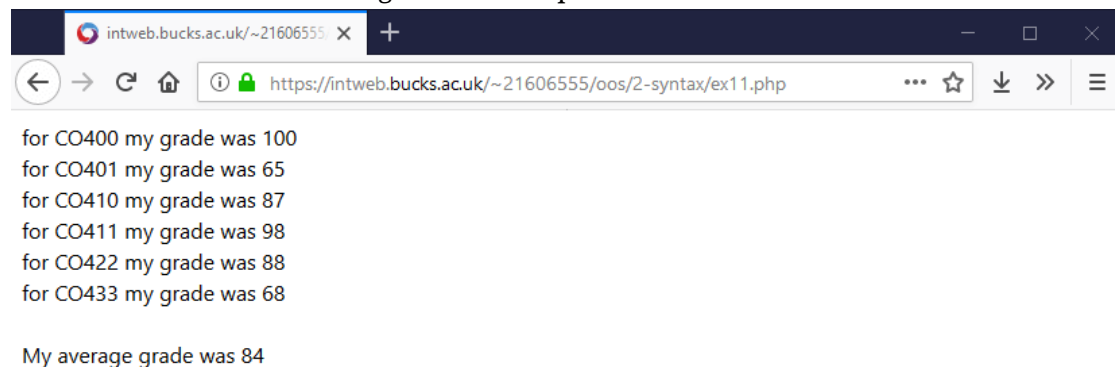
Figure 2.21: ex11.php

```
1  <?php
2      $myMarks["C0400"] = 100;
3      $myMarks["C0401"] = 65;
4      $myMarks["C0410"] = 87;
5      $myMarks["C0411"] = 98;
6      $myMarks["C0422"] = 88;
7      $myMarks["C0433"] = 68;
8      $total = 0;

9      while(list($index, $value) = each($myMarks)) {
10         $total += $value;
11         echo "for $index my grade was $value<br>";
12     }

13     $average = round($total / sizeof($myMarks));
14     echo "<br>My average grade was $average";
15     ?>
```

Figure 2.22: Output of exercise 11



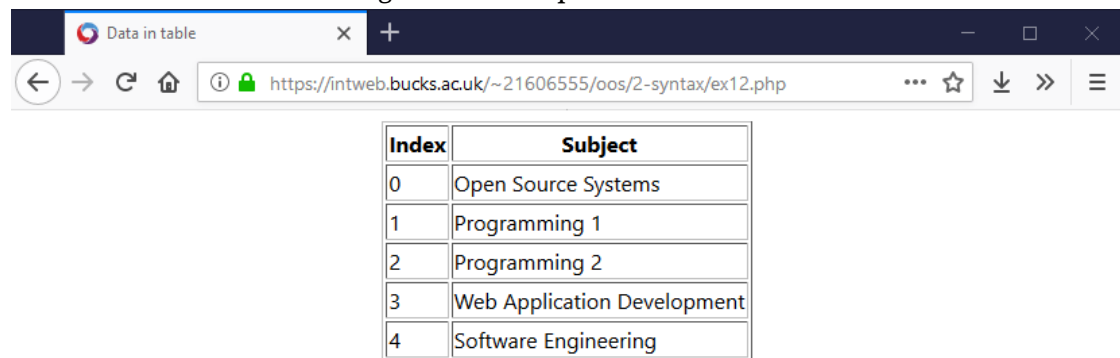
## 2.12 Exercise 12

<https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex12.php>

Figure 2.23: ex12.php

```
1  <?php
2      $topModules[0] = "Open Source Systems";
3      $topModules[1] = "Programming 1";
4      $topModules[2] = "Programming 2";
5      $topModules[3] = "Web Application Development";
6      $topModules[4] = "Software Engineering";
7  ?>
8  <html>
9      <head>
10         <title>Data in table</title>
11     </head>
12     <body>
13         <table border=1 align=center>
14             <tr>
15                 <th>Index</th>
16                 <th>Subject</th>
17             </tr>
18             <?php
19                 for ($count = 0; $count < sizeof($topModules); $count++) {
20                     echo "<tr><td>$count</td><td>$topModules[$count]</td></tr>";
21                 }
22             ?>
23         </table>
24     </body>
25 </html>
```

Figure 2.24: Output of exercise 12



The image shows a web browser window with a single tab titled "Data in table". The address bar displays the URL "https://intweb.bucks.ac.uk/~21606555/oos/2-syntax/ex12.php". Below the browser window, a table is displayed with two columns: "Index" and "Subject". The table contains five rows of data.

Index	Subject
0	Open Source Systems
1	Programming 1
2	Programming 2
3	Web Application Development
4	Software Engineering

## Section 3

# Forms

### 3.1 Exercise 1

<https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex1.html>

Figure 3.1: ex1.html

```
1 <html>
2   <head>
3     <title>HTML form submitted to php file</title>
4   </head>
5   <body>
6     <form action='./ex1-action.php' method='post'>
7       Enter your name
8       <input type='text' name='txtname' size='30'>
9       <br><br>Gender
10      <input type='radio' name='radsex' value='male'>Male
11      <input type='radio' name='radsex' value='female'>Female
12      <input type='radio' name='radsex' value='other'>Other
13      <br><br>Occupation
14      <select name='seloccupation'>
15        <option>Lecturer</option>
16        <option>Beach Bum</option>
17        <option>Traffic Warden</option>
18      </select>
19      <br><br>
20      <input type='submit' value='display'>
21    </form>
22  </body>
23 </html>
```

Figure 3.2: ex1-action.php

```
1 <html>
2   <head>
3     <title>Response to form</title>
4   </head>
5   <body>
6     <?php
7       echo "Your name is $_POST[txtname]<br>";
8       echo "Your gender is $_POST[radsex]<br>";
9       echo "Your occupation is $_POST[seloccupation]<br>";
10    ?>
11  </body>
12 </html>
```

Figure 3.3: Input form for exercise 1

HTML form submitted to php

Enter your name

Gender ☒ Male ☐ Female ☐ Other

Occupation

Figure 3.4: Output of exercise 1

Response to form

Your name is Bob  
Your gender is male  
Your occupation is Lecturer

## 3.2 Exercise 2

<https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex2.html>

Figure 3.5: ex2.html

```
1 <html>
2   <head>
3     <title>Selection Exercise 1</title>
4   </head>
5   <body>
6     <form action='./ex2-action.php' method='post'>
7       Enter your age:
8       <input type='text' name='txtage'>
9       <br><br>Gender
10      <input type='radio' name='radsex' value='male'>Male
11      <input type='radio' name='radsex' value='female'>Female
12      <br>
13      <input type='submit'>
14    </form>
15  </body>
16 </html>
```

Figure 3.6: ex2-action.php

```
1 <?php
2   if ($_POST["txtage"] < 21) {
3     echo "You are under 21 years old";
4   } else {
5     echo "You are 21 years old or over";
6   }
7
7   if ($_POST["radsex"] == "male") {
8     echo " and male";
9   } else {
10    echo " and female";
11  }
12 ?>
```



Figure 3.7: Input form for exercise 2 showing male/under 21

Selection Exercise 1

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex2.html

Enter your age: 20

Gender ☒ Male ☐ Female

Submit Query

Figure 3.8: Output of exercise 2 showing male/under 21

intweb.bucks.ac.uk/~21606555

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex2-action.php

You are under 21 years old and male

Figure 3.9: Input form for exercise 2 showing female/over 21

Selection Exercise 1

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex2.html

Enter your age: 34

Gender ☐ Male ☒ Female

Submit Query

Figure 3.10: Output of exercise 2 showing female/over 21

intweb.bucks.ac.uk/~21606555

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex2-action.php

You are 21 years old or over and female

### 3.3 Exercise 3

If all the breaks are removed from the switch statement then the correct case is still accessed (selecting Part Time prints the part time course and not HNC, HND or BSC). However it will also print the default switch case (no course selected).

This happens as the `break` keyword is used to exit the switch statement. If there is no break then it will keep going through the switch cases for anything else that matches - the default case matches anything.

<https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex3.html>

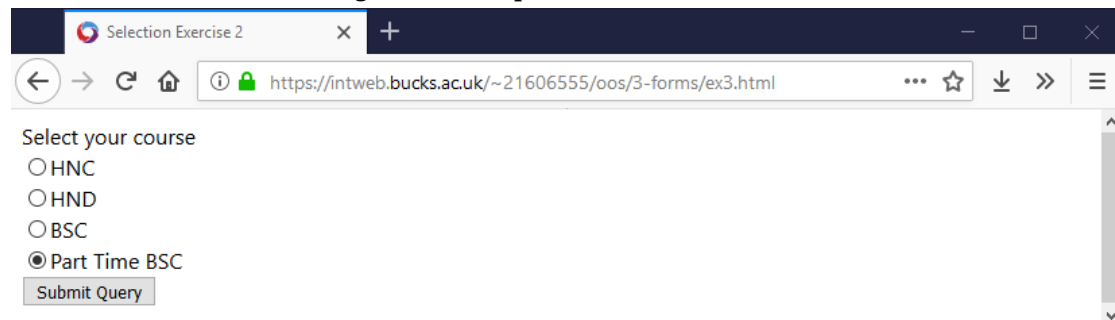
Figure 3.11: ex3.html

```
1 <html>
2   <head>
3     <title>Selection Exercise 2</title>
4   </head>
5   <body>
6     <form action='./ex3-action.php' method='post'>
7       Select your course<br>
8       <input type='radio' name='radcourse' value='HNC'>HNC<br>
9       <input type='radio' name='radcourse' value='HND'>HND<br>
10      <input type='radio' name='radcourse' value='BSC'>BSC<br>
11      <input type='radio' name='radcourse' value='PTBSC'>Part Time BSC</br>
12      <input type='submit'>
13    </form>
14  </body>
15 </html>
```

Figure 3.12: ex3-action.php

```
1  <?php
2      switch ($_POST["radcourse"]) {
3          case "HNC":
4              echo "You have selected an HNC course";
5              break;
6          case "HND":
7              echo "You have selected an HND course";
8              break;
9          case "BSC":
10             echo "You have selected a BSC course";
11             break;
12          case "PTBSC":
13             echo "You have selected Part Time BSC";
14             break;
15          default:
16             echo "No course selected";
17      }
18  ?>
```

Figure 3.13: Input form for exercise 3



Select your course

☐ HNC

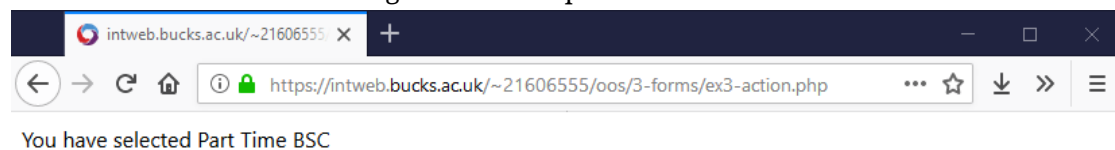
☐ HND

☐ BSC

☒ Part Time BSC

Submit Query

Figure 3.14: Output of exercise 3



You have selected Part Time BSC

## 3.4 Exercise 4

<https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex4.php>

Figure 3.15: ex4.php

```
1 <html>
2   <head>
3     <title>My Guestbook</title>
4   </head>
5   <body>
6     <h1>Welcome to my Guestbook</h1>
7     <h2>Please write me a little note below</h2>

8     <form action='<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);?>' method='post'
9       <textarea cols='40' rows='5' name='note' wrap='virtual'></textarea>
10      <input type='submit' value='Send it'>
11    </form>

12    <?php
13      if (isset($_POST[note])) {
14        // Substitute your login in place of "yourLogin"
15        $fp = fopen('yourLogin.txt', 'a');
16        fputs($fp, nl2br($_POST[note]) . '<br>');
17        fclose($fp);
18      }
19    ?>
20    <h2>The entries so far:</h2>

21    <?php
22      // Substitute your login in place of "yourLogin"
23      @readfile('yourLogin.txt');
24    ?>
```

Figure 3.16: Input form for exercise 4

My Guestbook

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex4.php

## Welcome to my Guestbook

Please write me a little note below

Foo

Send it

The entries so far:

Figure 3.17: Output of exercise 4

My Guestbook

https://intweb.bucks.ac.uk/~21606555/oos/3-forms/ex4.php

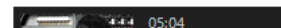
## Welcome to my Guestbook

Please write me a little note below

Send it

The entries so far:

Foo



## Section 4

# Sessions

### 4.1 Exercise 1

The code has been amended to properly display the widget order quantity on the confirmation page. This was the second most easiest method to implement as it only required starting a PHP Session in each of the scripts and using `$_SESSION` instead of `$_POST`.

Cookies are the hardest (but still straight forward) implement as a function is used to set the cookies using `setcookie(key, value)` and then using `$_COOKIE` instead of `$_POST` to access the value.

Hidden fields is the easiest method to implement as it only requires adding an extra field to the intermediary colour selection page that is hidden to the user.

<https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex1.html>

Figure 4.1: ex1.html

```
1 <html>
2   <head>
3     <title>Shopping Page</title>
4   </head>
5   <body>
6     <form action='ex1-colour.php' method='post'>
7       Select the quantity of widgets you require
8       <select name='selqty'>
9         <option>1</option>
10        <option>2</option>
11        <option>3</option>
12        <option>4</option>
13        <option>5</option>
14      </select>
15      <br><br>
16      <input type='submit' value='Buy'>
17    </form>
18  </body>
19 </html>
```

Figure 4.2: ex1-colour.php using session variables

```
1  <?php
2      session_start();
3      $_SESSION['widgetQuantity'] = $_POST[selqty];
4  ?>

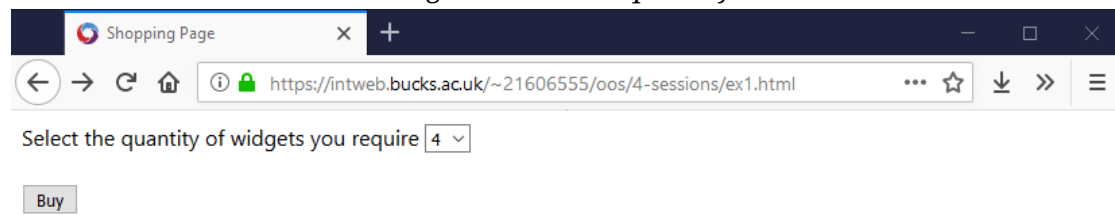
5  <html>
6      <head>
7          <title>Select colour page</title>
8      </head>
9      <body>
10         <form action='ex1-confirm.php' method='post'>
11             Select the colour for the <?= $_SESSION[widgetQuantity] ?>
12             widgets you are ordering
13             <select name='selcolour'>
14                 <option>White</option>
15                 <option>Red</option>
16                 <option>Yellow</option>
17                 <option>Green</option>
18                 <option>Blue</option>
19             </select>
20             <br><br>
21             <input type='submit' value='Next'>
22         </form>
23     </body>
24 </html>
```

Figure 4.3: ex1-confirm.php using session variables

```
1  <?php
2      session_start();
3      $quantity = $_SESSION[widgetQuantity];
4      $colour = $_POST[selcolour];
5      echo "<h2>Your order quantity is $quantity</h2>";
6      echo "<h2>and the selected colour is $colour.</h2>";
7  ?>
```

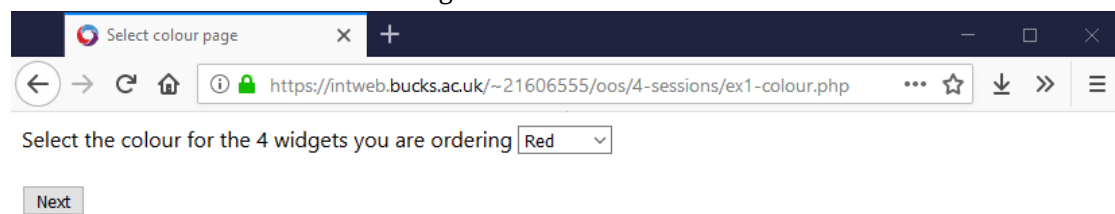


Figure 4.4: Select quantity



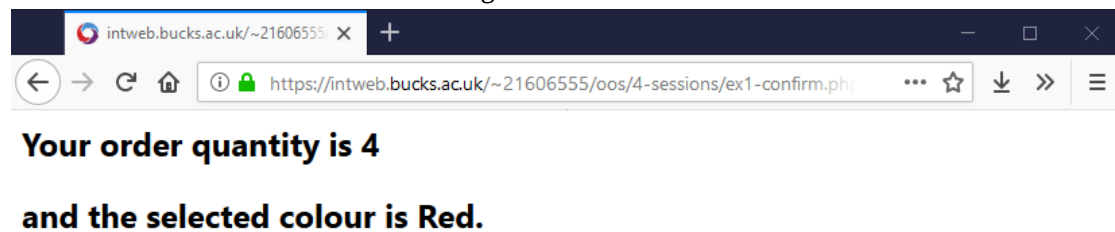
A screenshot of a web browser window. The tab is labeled 'Shopping Page'. The address bar shows the URL 'https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex1.html'. Below the address bar, the text 'Select the quantity of widgets you require' is followed by a dropdown menu showing the number '4'. Below this, there is a 'Buy' button.

Figure 4.5: Select colour



A screenshot of a web browser window. The tab is labeled 'Select colour page'. The address bar shows the URL 'https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex1-colour.php'. Below the address bar, the text 'Select the colour for the 4 widgets you are ordering' is followed by a dropdown menu showing the color 'Red'. Below this, there is a 'Next' button.

Figure 4.6: Result



A screenshot of a web browser window. The tab is labeled 'intweb.bucks.ac.uk/~21606555'. The address bar shows the URL 'https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex1-confirm.php'. Below the address bar, the text 'Your order quantity is 4' is displayed in bold. Below this, the text 'and the selected colour is Red.' is displayed in bold.

## 4.2 Exercise 2

Price has been added to ex1.html and stored as a session variable so it can be used on the confirmation page.

<https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex2.html>

Figure 4.7: ex2.html

```
1 <html>
2   <head>
3     <title>Shopping Page</title>
4   </head>
5   <body>
6     <form action='ex2-colour.php' method='post'>
7       Select the quantity of widgets you require
8       <select name='selqty'>
9         <option>1</option>
10        <option>2</option>
11        <option>3</option>
12        <option>4</option>
13        <option>5</option>
14      </select>
15      <br><br>
16      <input type='text' name='txtprice' size='10' value='15.75' readonly>
17      <input type='submit' value='Buy'>
18    </form>
19  </body>
20 </html>
```

Figure 4.8: ex2-colour.php setting price session variable

```
1  <?php
2      session_start();
3      $_SESSION['widgetQuantity'] = $_POST[selqty];
4      $_SESSION['widgetPrice'] = $_POST[txtprice];
5  ?>

6  <html>
7      <head>
8          <title>Select colour page</title>
9      </head>
10     <body>
11         <form action='ex2-confirm.php' method='post'>
12             Select the colour for the <?= $_SESSION[widgetQuantity] ?>
13             widgets you are ordering
14             <select name='selcolour'>
15                 <option>White</option>
16                 <option>Red</option>
17                 <option>Yellow</option>
18                 <option>Green</option>
19                 <option>Blue</option>
20             </select>
21             <br><br>
22             <input type='submit' value='Next'>
23         </form>
24     </body>
25 </html>
```

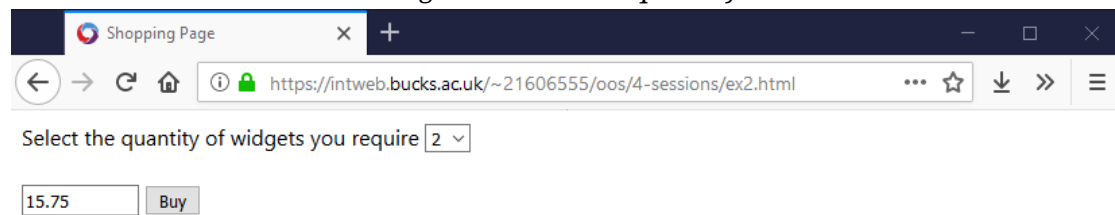
Figure 4.9: ex2-confirm.php displaying price

```
1  <?php
2      session_start();

3      $colour = $_POST[selcolour];
4      $quantity = $_SESSION[widgetQuantity];
5      $totalPrice = $_SESSION[widgetPrice] * $quantity;

6      echo "<h2>Your order quantity is $quantity</h2>";
7      echo "<h2>and the selected colour is $colour.</h2>";
8      echo "<h2>for a total price of £$totalPrice</h2>";
9  ?>
```

Figure 4.10: Select quantity



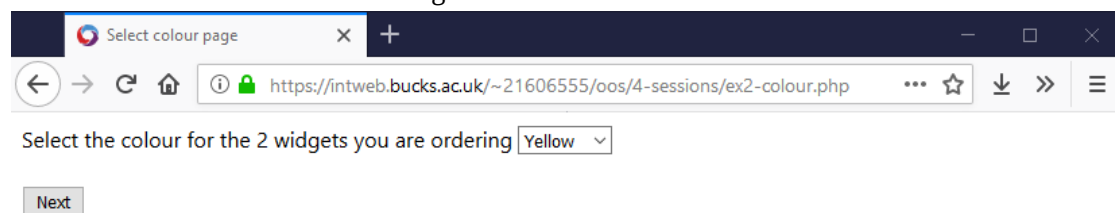
Shopping Page

https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex2.html

Select the quantity of widgets you require

15.75 Buy

Figure 4.11: Select colour



Select colour page

https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex2-colour.php

Select the colour for the 2 widgets you are ordering

Next

Figure 4.12: Result



intweb.bucks.ac.uk/~21606555

https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex2-confirm.php

**Your order quantity is 2**

**and the selected colour is Yellow.**

## 4.3 Exercise 3

The price has been removed from `ex3.html` and added to a new page `ex3-size.php`. This includes a dropdown to select the size of widgets. I decided to include the price in the dropdown (Small (£15.75)) which is then split when the data is stored in session variables. This avoids having to use a switch statement and keeps the sizing and pricing data in the same place for easier modification.

<https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex3.html>

Figure 4.13: `ex3.html`

```
1 <html>
2   <head>
3     <title>Shopping Page</title>
4   </head>
5   <body>
6     <form action='ex3-size.php' method='post'>
7       Select the quantity of widgets you require
8       <select name='selqty'>
9         <option>1</option>
10        <option>2</option>
11        <option>3</option>
12        <option>4</option>
13        <option>5</option>
14      </select>
15      <br><br>
16      <input type='submit' value='Buy'>
17    </form>
18  </body>
19 </html>
```

Figure 4.14: ex3-size.php

```
1  <?php
2      session_start();
3      $_SESSION[widgetQuantity] = $_POST[selqty];
4  ?>

5  <html>
6      <head>
7          <title>Select size page</title>
8      </head>
9      <body>
10         <form action='ex3-colour.php' method='post'>
11             Select the size of the <?= $_SESSION[widgetQuantity] ?>
12             widgets you are ordering
13             <select name='selsize'>
14                 <option>Small (£15.75)</option>
15                 <option>Medium (£16.75)</option>
16                 <option>Large (£17.75)</option>
17                 <option>Extra Large (£18.75)</option>
18             </select>
19             <br><br>
20             <input type='submit' value='Next'>
21         </form>
22     </body>
23 </html>
```

Figure 4.15: ex3-colour.php

```
1  <?php
2      session_start();
3      // Input is "Small (£15)"
4      // Output is [ "Small", "15" ]
5      $selSize = explode(' (£', rtrim($_POST[selsize], ' '));
6      $_SESSION[widgetSize] = $selSize[0];
7      $_SESSION[widgetPrice] = $selSize[1];
8  ?>

9  <html>
10     <head>
11         <title>Select colour page</title>
12     </head>
13     <body>
14         <form action='ex3-confirm.php' method='post'>
15             Select the colour for the <?= $_SESSION[widgetQuantity] ?>
16             <?= $_SESSION[widgetSize] ?> widgets you are ordering
17             <select name='selcolour'>
18                 <option>White</option>
19                 <option>Red</option>
20                 <option>Yellow</option>
21                 <option>Green</option>
22                 <option>Blue</option>
23             </select>
24             <br><br>
25             <input type='submit' value='Next'>
26         </form>
27     </body>
28 </html>
```

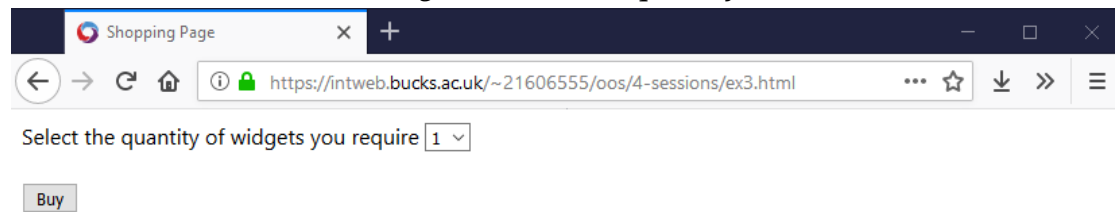
Figure 4.16: ex3-confirm.php

```
1 <?php
2     session_start();

3     $colour = $_POST[selcolour];
4     $size = $_SESSION[widgetSize];
5     $quantity = $_SESSION[widgetQuantity];
6     $totalPrice = $_SESSION[widgetPrice] * $quantity;

7     echo "<h2>Your order quantity is $quantity</h2>";
8     echo "<h2>and the selected colour is $colour.</h2>";
9     echo "<h2>and the selected size is $size</h2>";
10    echo "<h2>for a total price of £$totalPrice</h2>";
11    ?>
```

Figure 4.17: Select quantity



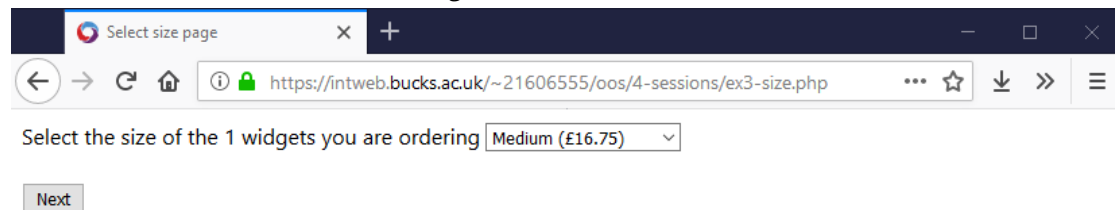
Shopping Page

https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex3.html

Select the quantity of widgets you require

Buy

Figure 4.18: Select size



Select size page

https://intweb.bucks.ac.uk/~21606555/oos/4-sessions/ex3-size.php

Select the size of the 1 widgets you are ordering

Next



Figure 4.19: Select colour

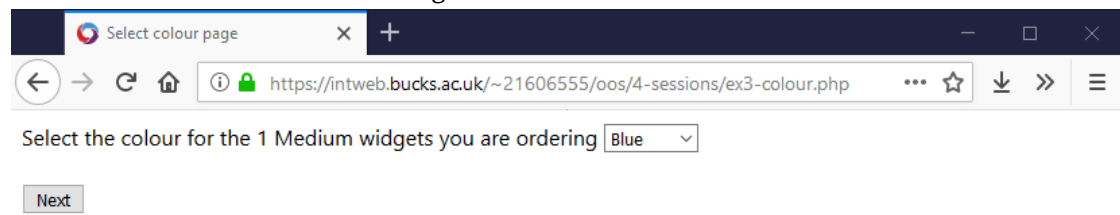
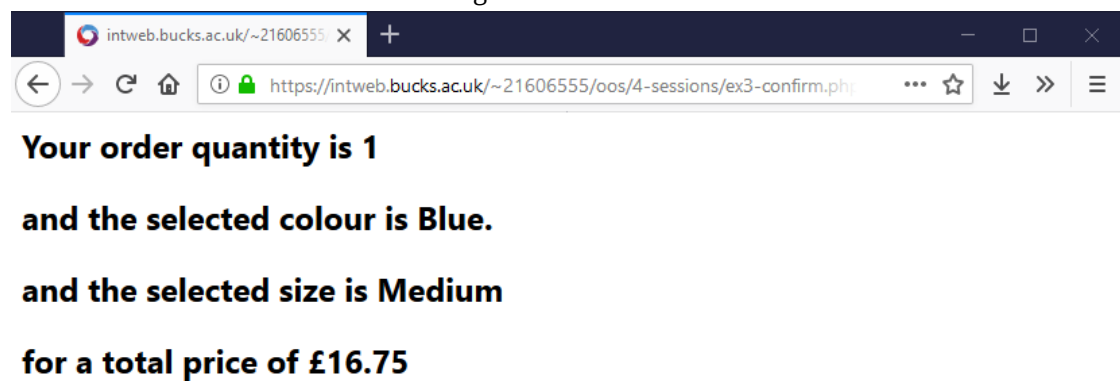


Figure 4.20: Result



## 4.4 Exercise 4

Figure 4.21: Order Form

The screenshot shows a web browser window with the title 'Website Page Title' and the URL 'http://www.example.com/'. The page has a blue header bar with the word 'Shop' in white. Below the header, the main content area has a light gray background and is titled 'Buy Widgets' in bold blue text. The form contains the following elements: a 'Quantity' label next to a text input field with the value '2'; a 'Widget Colour' label next to a dropdown menu showing 'Red'; a 'Widget Size' label next to a dropdown menu showing 'Medium'; a 'Price' label next to the text '£16.75'; and a 'Purchase' button at the bottom.

Quantity	2
Widget Colour	Red
Widget Size	Medium
Price	£16.75

Purchase

Figure 4.22: Order Confirmation

The screenshot shows the same web browser window as Figure 4.21, but the page content has changed to a receipt. The header bar remains the same. The main content area is titled 'Receipt' in bold blue text. Below the title, there is a message: 'Thank you for your purchase. Below is a confirmation of your order:'. This is followed by a list of order details: 'Quantity 2', 'Widget Colour Red', 'Widget Size Medium', and 'Price £16.75'. The text 'Red', 'Medium', and '£16.75' are in bold.

Thank you for your purchase. Below is a confirmation of your order:

Quantity	2
Widget Colour	Red
Widget Size	Medium
Price	£16.75

## Section 5

# Object Oriented PHP & MySQL

### 5.1 Exercise 1

<https://intweb.bucks.ac.uk/~21606555/oos/5-oophp-mysql/index.php>

Figure 5.1: class\_lib.php

```
1  <?php
2      class person {
3          var $name;

4          function set_name($new_name) {
5              $this->name = $new_name;
6          }

7          function get_name() {
8              return $this->name;
9          }
10     }
11  ?>
```

Figure 5.2: index.php

```
1 <?php
2     include('class_lib.php');

3     $stefan = new person();
4     $stefan->set_name('Stefan Mischook');
5     echo 'Stefan\'s full name: ' . $stefan->get_name();

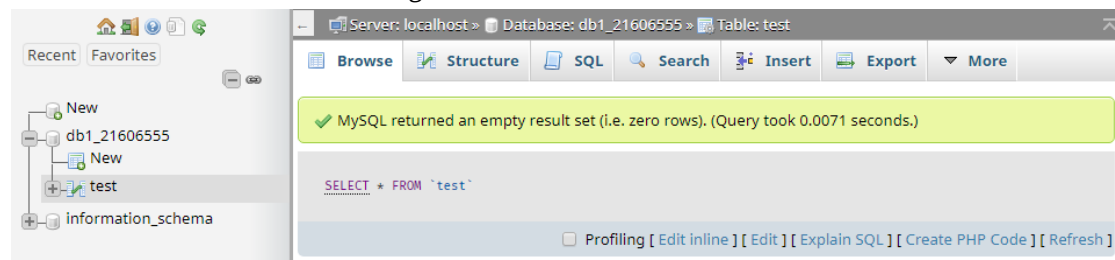
6     $jimmy = new person;
7     $jimmy->set_name('Nick Waddles');
8     echo 'Nick\'s full name: ' . $jimmy->get_name();
9     ?>
```

Figure 5.3: Result



## 5.2 Exercise 2

Figure 5.4: Test table created



## 5.3 Exercise 3

Figure 5.5: Added row to table

✓ Showing rows 0 - 0 (1 total, Query took 0.0002 seconds.)

```
SELECT * FROM `test`
```

☐ Profiling [ [Edit inline](#) ] [ [Edit](#) ] [ [Explain SQL](#) ] [ [Create PHP Code](#) ] [ [Refresh](#) ]

☐ Show all | Number of rows: 25 | Filter rows:

+ Options

	name	email	phone_number	ID
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	Bugs Bunny	carrots@server3.com	5554321	1

↑ ☐ Check All With selected: [Edit](#) [Delete](#) [Export](#)

## 5.4 Exercise 4

Figure 5.6: Searching for Bugs Bunny

```
SELECT * FROM test WHERE (name = "Bugs Bunny")
```

☐ Profiling [ [Edit inline](#) ] [ [Edit](#) ] [ [Explain SQL](#) ] [ [Create PHP Code](#) ] [ [Refresh](#) ]

☐ Show all | Number of rows: 25 | Filter rows:


Options

	name	email	phone_number	ID
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	Bugs Bunny	carrots@server3.com	5554321	1

↑ ☐ Check All With selected: [Edit](#) [Delete](#) [Export](#)

## 5.5 Exercise 5

Figure 5.7: Adding more rows to test table

 Showing rows 0 - 3 (4 total, Query took 0.0002 seconds.)

















```
SELECT * FROM `test`
```





☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP Code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows:  | Filter rows:

Sort by key:

+ Options

					name	email	phone_number	ID
<input type="checkbox"/>		 Edit	 Copy	 Delete	Bugs Bunny	carrots@server3.com	5554321	1
<input type="checkbox"/>		 Edit	 Copy	 Delete	Bugs Bunny	peppers@server3.com	5554331	2
<input type="checkbox"/>		 Edit	 Copy	 Delete	Bugs Bunny	lettuce@server3.com	5554341	3
<input type="checkbox"/>		 Edit	 Copy	 Delete	Bugs Bunny	celery@server3.com	5554351	4

 ☐ Check All | With selected:  Edit  Delete  Export

## 5.6 Exercise 6

Figure 5.8: Searching for all Bugs Bunny

The screenshot displays a database management tool interface. At the top, a SQL query is entered: `SELECT * FROM test WHERE (name = "Bugs Bunny")`. Below the query bar, there are links for [Profiling](#), [\[ Edit inline \]](#), [\[ Edit \]](#), [\[ Explain SQL \]](#), [\[ Create PHP Code \]](#), and [\[ Refresh \]](#). A control bar shows ☐ Show all, Number of rows: 25, and Filter rows: Search this table. Below this, a 'Sort by key:' dropdown is set to 'None'. A '+ Options' section is visible. The main area contains a table with 4 rows, all named 'Bugs Bunny'. Each row has columns for 'name', 'email', 'phone\_number', and 'ID'. To the left of each row are checkboxes and icons for Edit, Copy, and Delete. At the bottom, there is an '↑' icon, a 'Check All' checkbox, and a 'With selected:' section containing Edit, Delete, and Export icons.

```
SELECT * FROM test WHERE (name = "Bugs Bunny")
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP Code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Sort by key: None

+ Options

		name	email	phone_number	ID
<input type="checkbox"/>	Edit Copy Delete	Bugs Bunny	carrots@server3.com	5554321	1
<input type="checkbox"/>	Edit Copy Delete	Bugs Bunny	peppers@server3.com	5554331	2
<input type="checkbox"/>	Edit Copy Delete	Bugs Bunny	lettuce@server3.com	5554341	3
<input type="checkbox"/>	Edit Copy Delete	Bugs Bunny	celery@server3.com	5554351	4

↑ ☐ Check All With selected: Edit Delete Export

## 5.7 Exercise 7

Figure 5.9: Deleting a row

The screenshot shows a database management interface. At the top, there is a SQL query editor with the text `SELECT * FROM `test``. Below the editor, there are several links: [Profiling](#), [\[ Edit inline \]](#), [\[ Edit \]](#), [\[ Explain SQL \]](#), [\[ Create PHP Code \]](#), and [\[ Refresh \]](#). Below these links, there is a section for filtering and sorting. It includes a checkbox for [Show all](#), a dropdown for [Number of rows:](#) set to 25, and a text input for [Filter rows:](#) with the placeholder text "Search this table". Below this, there is a dropdown for [Sort by key:](#) set to None. Below the sorting options, there is a section for [+ Options](#) with a dropdown menu. Below the options, there is a table with three rows. The second row is highlighted. The table has columns: [name](#), [email](#), [phone\\_number](#), and [ID](#). The rows are: Bugs Bunny peppers@server3.com 5554331 2, Bugs Bunny lettuce@server3.com 5554341 3, and Bugs Bunny celery@server3.com 5554351 4. Below the table, there is a section for [With selected:](#) with buttons for [Edit](#), [Delete](#), and [Export](#).

```
SELECT * FROM `test`
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP Code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Sort by key: None

+ Options

				name	email	phone_number	ID
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	Bugs Bunny	peppers@server3.com	5554331	2
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	Bugs Bunny	lettuce@server3.com	5554341	3
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	Bugs Bunny	celery@server3.com	5554351	4

[Check All](#) | With selected: [Edit](#) [Delete](#) [Export](#)



## 5.8 Exercise 8

Figure 5.10: Modifying cells in tables

SELECT \* FROM `test`

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP Code ] [ Refresh ]

☐ Show all | Number of rows: 25 ▼ | Filter rows: Search this table

Sort by key: None ▼

+ Options

				name	email	phone_number	ID			
<input type="checkbox"/>		Edit		Copy		Delete	Daffy Duck	peppers@server3.com	5554331	2
<input type="checkbox"/>		Edit		Copy		Delete	Daffy Duck	lettuce@server3.com	5554341	3
<input type="checkbox"/>		Edit		Copy		Delete	Daffy Duck	celery@server3.com	5554351	4

⬆ ☐ Check All With selected: Edit Delete Export

## Section 6

# Database Connectivity & Functions

### 6.1 Exercise 1

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex1.html>

Figure 6.1: ex1.html

```
1 <html>
2   <body>
3     <form action='ex1-action.php' method='post'>
4       Enter name:
5       <input type='text' name='txtName'>
6       <br>
7       Enter email:
8       <input type='text' name='txtEmail'>
9       <br>
10      Enter Tel number:
11      <input type='text' name='txtPhoneNumber'>
12      <br><br>
13      <input type='submit' value='Save Data'>
14    </form>
15  </body>
16 </html>
```

Figure 6.2: ex1-action.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

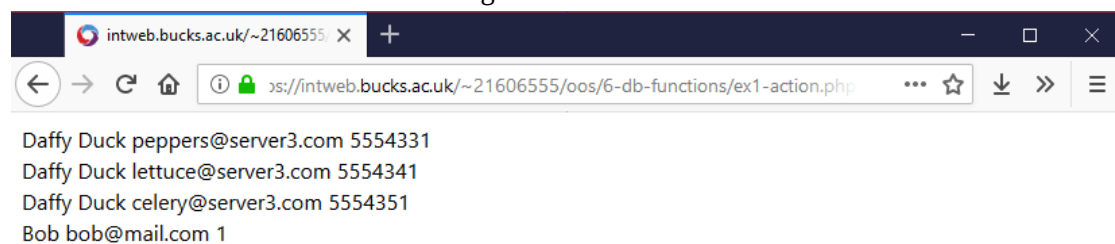
7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $txtName = $_POST[txtName];
12     $txtEmail = $_POST[txtEmail];
13     $txtPhoneNumber = $_POST[txtPhoneNumber];

14     $query = "INSERT INTO test (name,email,phone_number) VALUES (?,?,:)";
15     $sql = $db->prepare($query);
16     $sql->bind_param('ssi', $txtName, $txtEmail, $txtPhoneNumber);
17     $sql->execute();

18     $result = $db->query("SELECT * from test");
19     while ($row = $result->fetch_assoc()) {
20         echo "$row[name] $row[email] $row[phone_number]<br>";
21     }
22     ?>
```

Figure 6.3: Result



## 6.2 Exercise 2

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex2.php>

Figure 6.4: ex2.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $result = $db->query("SELECT * from test");
12     ?>

13 <html>
14     <body>
15         <?php
16             while ($row = $result->fetch_assoc()) {
17                 echo "<a href=\"ex2-action.php?id=$row[name]\">$row[name]</a> ";
18                 // See Exercise 4
19                 echo "<a href=\"ex4-action.php?id=$row[name]\">[DELETE]</a><br>";
20             }
21         ?>
22     </body>
23 </html>
```

Figure 6.5: ex2-action.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $result = $db->query("SELECT * from test WHERE name='$_GET[id]'");
12     $row = $result->fetch_assoc()
13     ?>

14 <html>
15     <body>
16         <!-- See Exercise 3 for ex3-action.php -->
17         <form action='ex3-action.php' method='post'>
18             Name:
19             <input type='text' name='txtname' value="<?= $row[name] ?>" readonly>
20             <br>
21             Phone Number:
22             <input type='text' name='txttelno' value="<?= $row[phone_number] ?>">
23             <br>
24             Email:
25             <input type='text' name='txtemail' value="<?= $row[email] ?>">
26             <br>
27             <input type='submit' value='Update Data'>
28         </form>
29     </body>
30 </html>
```

Figure 6.6: List of users

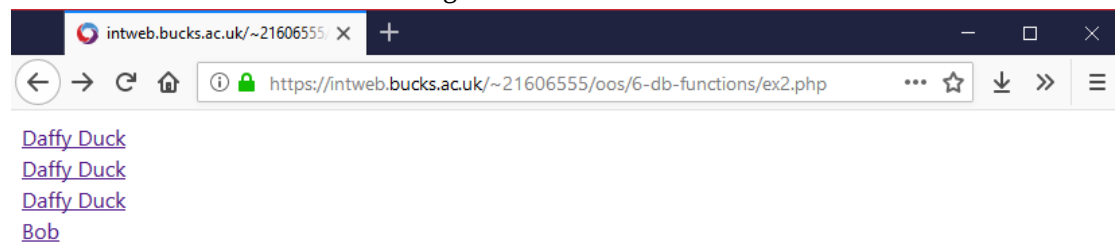
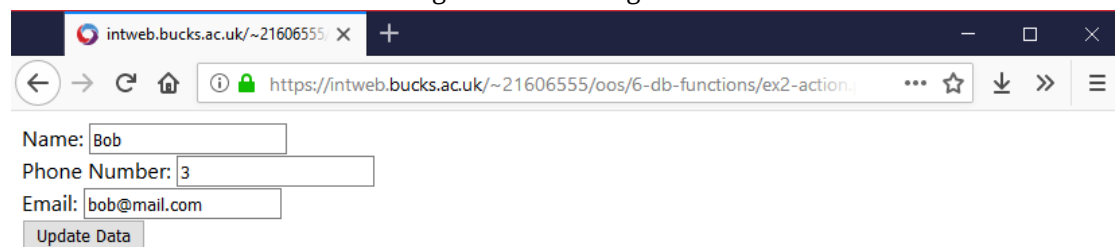


Figure 6.7: Editing a user



## 6.3 Exercise 3

Figure 6.8: ex3-action.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $txtName = $_POST[txtname];
12     $txtEmail = $_POST[txtemail];
13     $txtPhoneNumber = $_POST[txttelno];

14     $query = "UPDATE test SET email=?,phone_number=? WHERE name=?";

15     $sql = $db->prepare($query);
16     $sql->bind_param('sis', $txtEmail, $txtPhoneNumber, $txtName);
17     $sql->execute();

18     printf("%d row updated.", $sql->affected_rows);
19     ?>
```

Figure 6.9: Updated the user from exercise 2

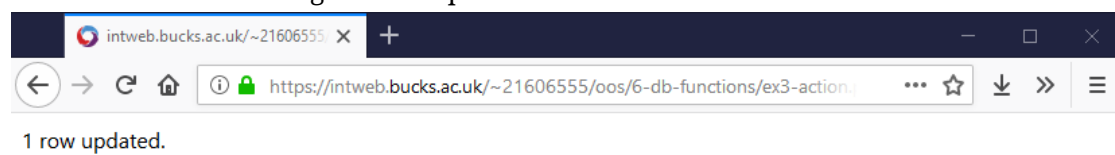


Figure 6.10: User data has been updated



The screenshot shows a web browser window with the address bar displaying `https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex2-action.`. The page content includes a form with the following fields and values:

- Name: Bob
- Phone Number: 1234567
- Email: bob@mail.com

Below the form is a button labeled "Update Data".

## 6.4 Exercise 4

Figure 6.11: ex4-action.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $query = "DELETE FROM test WHERE name=?";

12     $sql = $db->prepare($query);
13     $sql->bind_param('s', $_GET[id]);
14     $sql->execute();

15     printf("%d row deleted.", $sql->affected_rows);
16     ?>
```



Figure 6.12: Ability to delete users

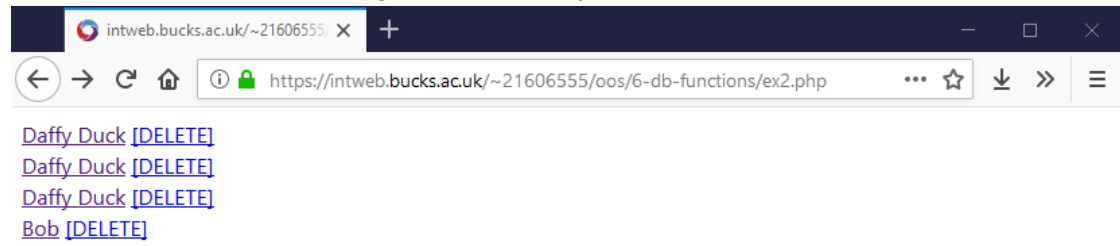


Figure 6.13: Deleting a user

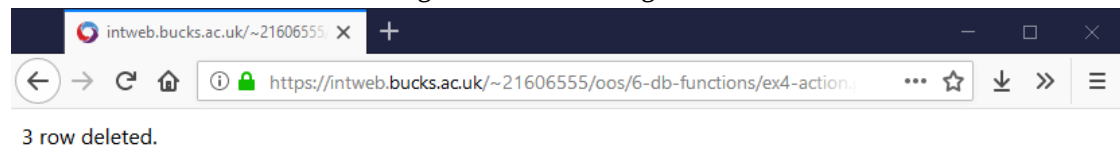
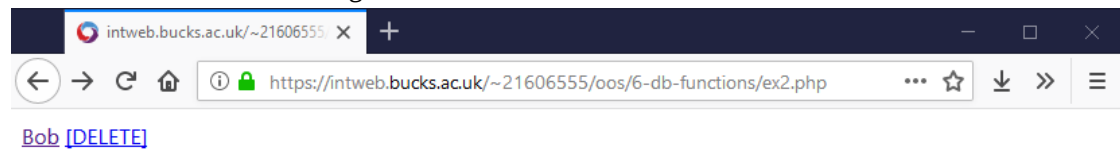


Figure 6.14: List without deleted users



## 6.5 Exercise 5

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex5.php>

Figure 6.15: ex5-functions.php

```
1 <?php
2     function html_header($pageTitle) {
3         echo "<html><head><title>$pageTitle</title></head><body>";
4     }

5     function html_h1($text) {
6         echo "<h1>$text</h1>";
7     }

8     function html_h2($text) {
9         echo "<h2>$text</h2>";
10    }

11    function html_footer() {
12        echo "</body></html>";
13    }
14    ?>
```

Figure 6.16: ex5.php

```
1 <?php
2     include('ex5-functions.php');
3     html_header('My first function demo');
4     html_h1('These functions are going to');
5     html_h2('save me lots of time');
6     html_footer();
7    ?>
```

Figure 6.17: Output



## 6.6 Exercise 6

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex6.php>

Figure 6.18: ex6-functions.php

```
1 <?php
2     function html_header($pageTitle) {
3         echo "<html><head><title>$pageTitle</title></head><body>";
4     }

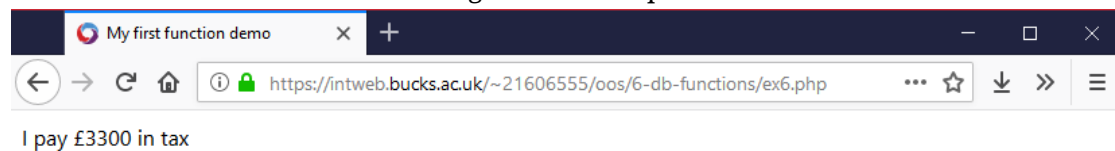
5     function calculate_tax($salary, $rate) {
6         return $salary * ($rate / 100);
7     }

8     function html_footer() {
9         echo "</body></html>";
10    }
11 ?>
```

Figure 6.19: ex6.php

```
1 <?php
2     include('ex6-functions.php');
3     html_header('My first function demo');
4     printf("I pay £%d in tax", calculate_tax(15000, 22));
5     html_footer();
6 ?>
```

Figure 6.20: Output



## 6.7 Exercise 7

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex7.php>

Figure 6.21: ex7-functions.php

```
1 <?php
2     function html_header($pageTitle) {
3         echo "<html><head><title>$pageTitle</title></head><body>";
4     }

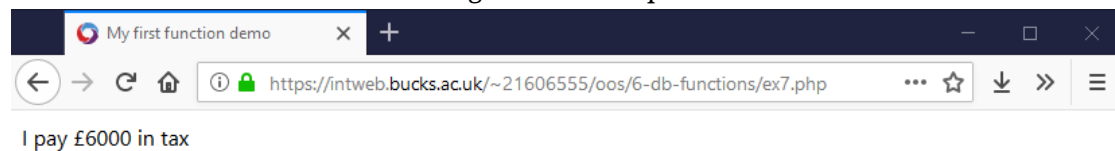
5     function calculate_tax($salary, $rate=40) {
6         return $salary * ($rate / 100);
7     }

8     function html_footer() {
9         echo "</body></html>";
10    }
11 ?>
```

Figure 6.22: ex7.php

```
1 <?php
2     include('ex7-functions.php');
3     html_header('My first function demo');
4     printf("I pay £%d in tax", calculate_tax(15000));
5     html_footer();
6 ?>
```

Figure 6.23: Output



## 6.8 Exercise 8

<https://intweb.bucks.ac.uk/~21606555/oos/6-db-functions/ex8.php>

Figure 6.24: ex8-functions.php

```
1 <?php
2     function html_header($pageTitle) {
3         echo "<html><head><title>$pageTitle</title></head><body>";
4     }

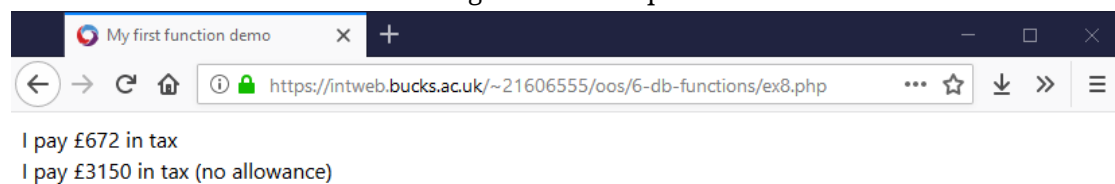
5     function calculate_tax($salary, $rate=40, $allowance=0) {
6         return ($salary - $allowance) * ($rate / 100);
7     }

8     function html_footer() {
9         echo "</body></html>";
10    }
11    ?>
```

Figure 6.25: ex8.php

```
1 <?php
2     include('ex8-functions.php');
3     html_header('My first function demo');
4     printf("I pay £%d in tax<br>", calculate_tax(15000, 21, 11800));
5     printf("I pay £%d in tax (no allowance)", calculate_tax(15000, 21));
6     html_footer();
7     ?>
```

Figure 6.26: Output

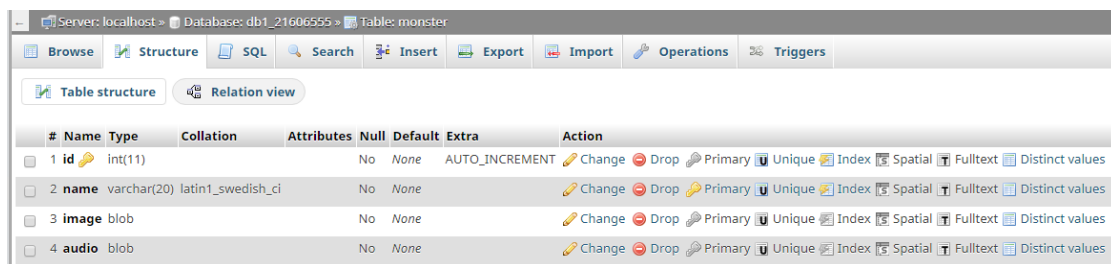


## Section 7

# PHP & Multimedia

## 7.1 Exercise 1

Figure 7.1: Table created



The screenshot shows a database management interface with the following table structure:

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(11)			No	None	AUTO_INCREMENT	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">Distinct values</a>
2	name	varchar(20)	latin1_swedish_ci		No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">Distinct values</a>
3	image	blob			No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">Distinct values</a>
4	audio	blob			No	None		<a href="#">Change</a> <a href="#">Drop</a> <a href="#">Primary</a> <a href="#">Unique</a> <a href="#">Index</a> <a href="#">Spatial</a> <a href="#">Fulltext</a> <a href="#">Distinct values</a>

## 7.2 Exercise 2

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex2.html>

Figure 7.2: ex2.html

```
1 <html>
2   <head>
3     <link
4       rel="stylesheet"
5       href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css"
6       integrity="sha384-BVYi iSIFeK1dGmJRAkycuHAHRg320mUcww7on3RYdg4Va+PmSTsz/K68vbdEj
7       crossorigin="anonymous"
8     >
9     <script
10      src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"
11      integrity="sha384-Tc5IQib027qvyjSMfHjOMaLkfuWVxZxUPnCJA7l2mCWNIpG9mGCD8wGNIcPD7
12      crossorigin="anonymous"
13    ></script>
14  </head>
15  <body>
16    <h2>Monster Details</h2>
17
18    <form enctype='multipart/form-data' action='ex2-savemonster.php' method='post'>
19      Monster name:
20      <input
21        type='text'
22        name='txtname'
23        size='15'
24        class='form-control'
25      >
26      <br><br>
27      Monster image:
28      <input
29        type='file'
30        name='monsterimage'
31        accept='image/jpeg'
32        class='form-control'
33      >
34      <br><br>
35      Monster sound:
36      <input
37        type='file'
38        name='monsteraudio'
39        accept='audio/basic'
```

```

39         class='form-control'
40     >
41     <br><br>
42     <input type='submit' class='btn btn-default' value='Save'>
43 </form>
44 </body>

```

Figure 7.3: ex2-savemonster.php

```

1  <?php
2  $hostname = "localhost";
3  $username = "21606555";
4  $password = "mysqluser";
5  $database = "db1_21606555";
6  $db = new mysqli($hostname, $username, $password, $database);

7  if ($db->connect_errno) {
8      printf("Connect failed: %s\n", $db->connect_error);
9      exit();
10 }

11 $name = $_POST['txtname'];
12 $image = $_FILES['monsterimage']['tmp_name'];
13 $audio = $_FILES['monsteraudio']['tmp_name'];

14 // Get binary file data
15 $imagedata = addslashes(file_get_contents($image));
16 $audiodata = addslashes(file_get_contents($audio));

17 // bind_param accepts only variables
18 $null = NULL;

19 $query = "INSERT INTO monster (name,image,audio) VALUES (?,?,?)";
20 $sql = $db->prepare($query);
21 $sql->bind_param('sbb', $name, $null, $null);
22 $sql->send_long_data(1, $imagedata);
23 $sql->send_long_data(2, $audiodata);
24 $sql->execute();
25 ?>

```



Figure 7.4: Upload form

intweb.bucks.ac.uk/~21606555 x +

https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex2.html

## Monster Details

Monster name:

Scary Alien

Monster image:

Browse... Alien.jpg

Monster sound:

Browse... X-files.wav

Save

Figure 7.5: Uploaded data

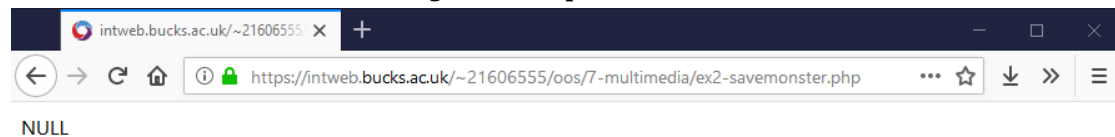


Figure 7.6: Data added to table

+ Options

	id	name	image	audio
<input type="checkbox"/> Edit Copy Delete	1	Alien	[BLOB - 11.7 KiB]	[BLOB - 64 KiB]

## 7.3 Exercise 3

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex3-getjpg.php?id=1>

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex3-getwav.php?id=1>

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex3-displaymonster.php>

Figure 7.7: ex3-getjpg.php

```
1  <?php
2      header('Content-Type: image/jpeg');

3      $hostname = "localhost";
4      $username = "21606555";
5      $password = "mysqluser";
6      $database = "db1_21606555";
7      $db = new mysqli($hostname, $username, $password, $database);

8      if ($db->connect_errno) {
9          printf("Connect failed: %s\n", $db->connect_error);
10         exit();
11     }

12     $query = "SELECT image FROM monster WHERE id='$_GET[id]'";
13     $result = $db->query($query);
14     $row = $result->fetch_assoc();
15     echo stripslashes($row['image']);
16  ?>
```

Figure 7.8: ex3-getwav.php

```
1  <?php
2      header('Content-Type: audio/wav');

3      $hostname = "localhost";
4      $username = "21606555";
5      $password = "mysqluser";
6      $database = "db1_21606555";
7      $db = new mysqli($hostname, $username, $password, $database);

8      if ($db->connect_errno) {
9          printf("Connect failed: %s\n", $db->connect_error);
10         exit();
11     }

12     $query = "SELECT audio FROM monster WHERE id='$_GET[id]'";
13     $result = $db->query($query);
14     $row = $result->fetch_assoc();
15     echo stripslashes($row['audio']);
16     ?>
```

Figure 7.9: ex3-displaymonster.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

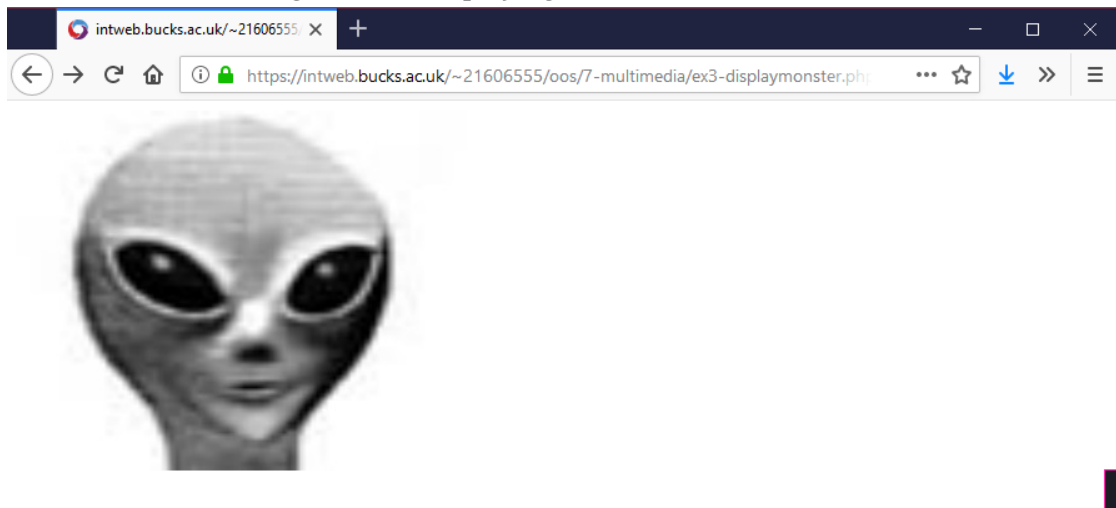
11     $query = "SELECT id FROM monster";
12     $result = $db->query($query);
13     $row = $result->fetch_assoc();

14     echo "<img src='ex3-getjpg.php?id=$row[id] ' >";
15     ?>
```

Figure 7.10: Displaying image from database



Figure 7.11: Displaying monster from database



## 7.4 Exercise 4

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex4-displaymonster.php>

Figure 7.12: ex4-displaymonster.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     $query = "SELECT id,name FROM monster";
12     $result = $db->query($query);




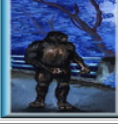
13     echo "<table align='center' border='1'>";
14     echo "<tr><th width='200' align='left'>ID</th>";
15     echo "<th width='200' align='left'>Name</th>";
16     echo "<th>Audio</th><th>Image</th></tr>";

17     while($row = $result->fetch_assoc()) {
18         echo "<tr>";
19         echo "<td>$row[id]</td>";
20         echo "<td>$row[name]</td>";
21         echo "<td><a href='ex3-getwav.php?id=$row[id]'>Click to play</a></td>";
22         echo "<td><img src='ex3-getjpg.php?id=$row[id]' height='100' width='100'></td>";
23         echo "</tr>";
24     }

25     echo "</table>";
26     ?>
```

Figure 7.13: Displaying all monsters in the database

Browser address bar: <https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex4-displaymonster.php>

ID	Name	Audio	Image
1	Alien	<a href="#">Click to play</a>	
3	Alien 2	<a href="#">Click to play</a>	
4	Bord	<a href="#">Click to play</a>	
5	Yeti	<a href="#">Click to play</a>	

## 7.5 Exercise 5

<https://intweb.bucks.ac.uk/~21606555/oos/7-multimedia/ex5.php>

Figure 7.14: ex5.php

```
1  <?php
2      switch ($_GET[type]) {
3          case 'image':
4              $contentType = 'image/jpeg';
5              $column = 'image';
6              break;
7          case 'audio':
8              $contentType = 'audio/wav';
9              $column = 'audio';
10             break;
11     }

12     header("Content-Type: $contentType");

13     $hostname = "localhost";
14     $username = "21606555";
15     $password = "mysqluser";
16     $database = "db1_21606555";
17     $db = new mysqli($hostname, $username, $password, $database);

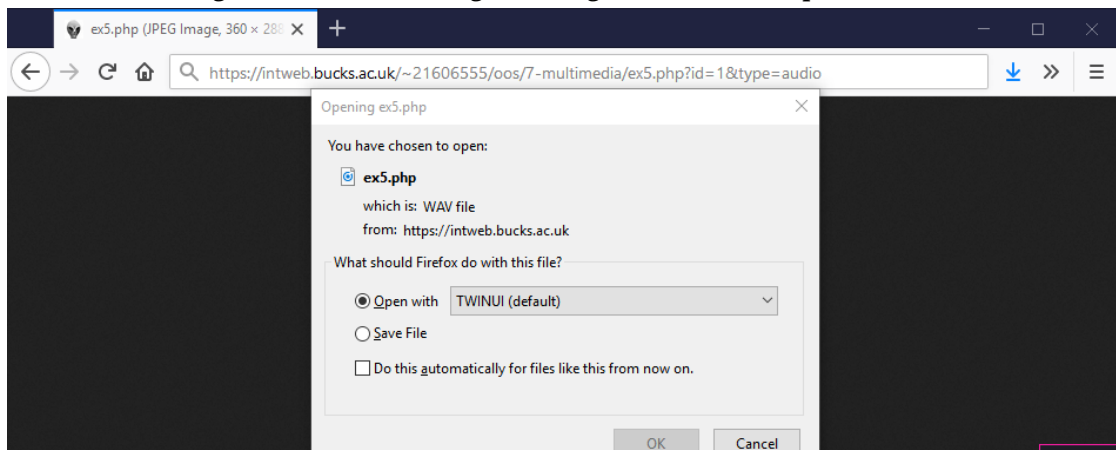
18     if ($db->connect_errno) {
19         printf("Connect failed: %s\n", $db->connect_error);
20         exit();
21     }

22     $query = "SELECT $column FROM monster WHERE id='".$_GET[id].'";
23     $result = $db->query($query);
24     $row = $result->fetch_assoc();
25     echo stripslashes($row[$column]);
26     ?>
```

Figure 7.15: Combining the image and audio scripts (image)



Figure 7.16: Combining the image and audio scripts (audio)

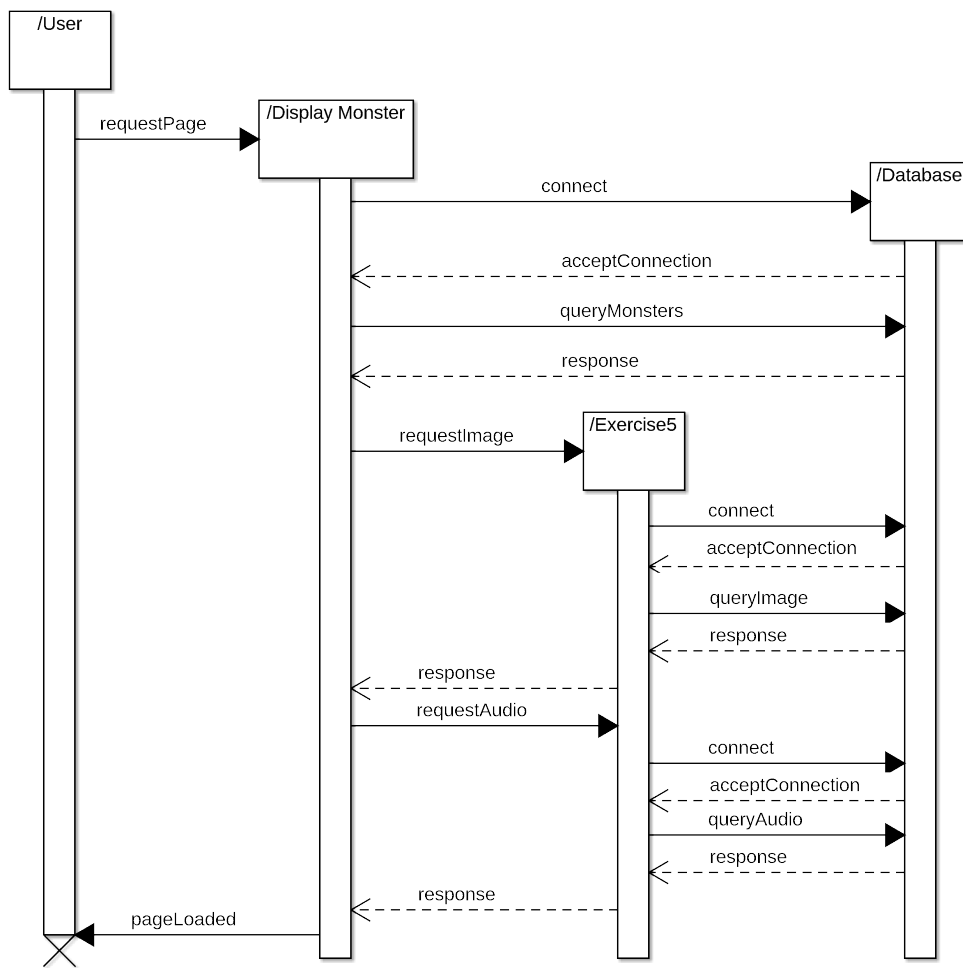




## 7.6 Exercise 6

Sequence diagram of the script created in Exercise 5 being used.

Figure 7.17: UML Sequence Diagram



## Section 8

# Database Connectivity & Testing

### 8.1 Exercise 1

<https://intweb.bucks.ac.uk/~21606555/oos/8-db-testing/ex1.php>

Figure 8.1: ex1.php

```
1 <?php
2     $lottodate = date("dmY");
3
4     echo "The lottery numbers for $lottodate are ";
5
6     for ($n = 1; $n < 7; $n++) {
7         $number[$n] = rand(1,49);
8         echo "<br>$number[$n]";
9     }
10 ?>
```

Figure 8.2: Lotto numbers output

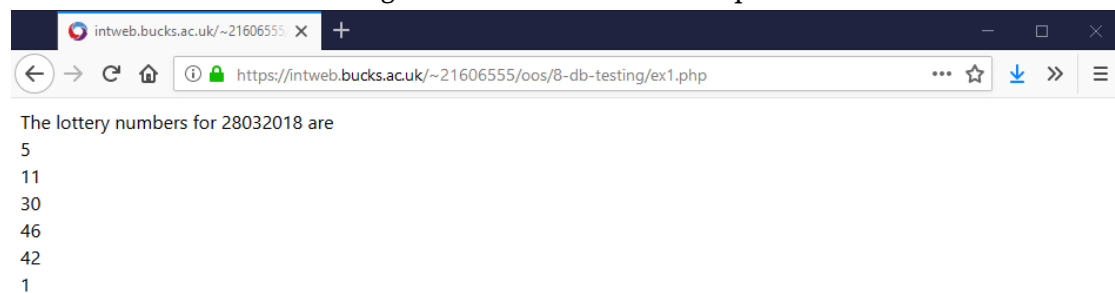
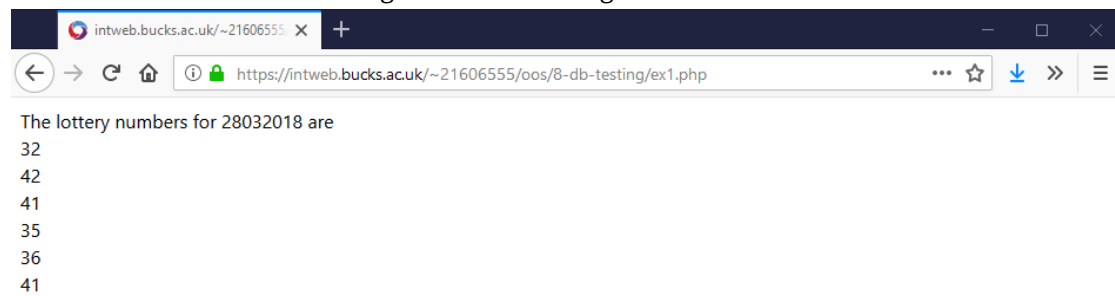


Figure 8.3: Checking randomness



## 8.2 Exercise 2

Figure 8.4: Lotto table created

Servers: localhost » Database: db1_21606555 » Table: lotto									
Browse Structure SQL Search Insert Export Import Operations Triggers									
Table structure Relation view									
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action	
1	wk	int(11)			No	None	AUTO_INCREMENT	Change	Drop
2	lottodate	date			No	None		Change	Drop
3	number1	int(11)			No	None		Change	Drop
4	number2	int(11)			No	None		Change	Drop
5	number3	int(11)			No	None		Change	Drop
6	number4	int(11)			No	None		Change	Drop
7	number5	int(11)			No	None		Change	Drop
8	number6	int(11)			No	None		Change	Drop

## 8.3 Exercise 3

<https://intweb.bucks.ac.uk/~21606555/oos/8-db-testing/ex3.php>

Figure 8.5: ex3.php

```
1  <?php
2      date_default_timezone_set('Europe/London');
3      $lottoDate = date("Ymd");

4      echo "The lottery numbers for $lottoDate are:";

5      for ($n = 1; $n < 7; $n++) {
6          $number[$n] = rand(1,49);
7          echo "<br>$number[$n]";
8      }

9      $hostname = "localhost";
10     $username = "21606555";
11     $password = "mysqluser";
12     $database = "db1_21606555";
13     $db = new mysqli($hostname, $username, $password, $database);

14     if ($db->connect_errno) {
15         printf("Connect failed: %s\n", $db->connect_error);
16         exit();
17     }

18     $query = "INSERT INTO lotto (lottodate,number1,number2,number3";
19     $query.= ",number4,number5,number6) VALUES (?,,?,,?,,?,?)";
20     $sql = $db->prepare($query);
21     $sql->bind_param(
22         'siiiiii',
23         $lottoDate,
24         $number[1],
25         $number[2],
26         $number[3],
27         $number[4],
28         $number[5],
29         $number[6]
30     );
31     $sql->execute();

32     echo "<br>This weeks numbers have been saved";
33     ?>
```

Figure 8.6: Lotto numbers and saving to database

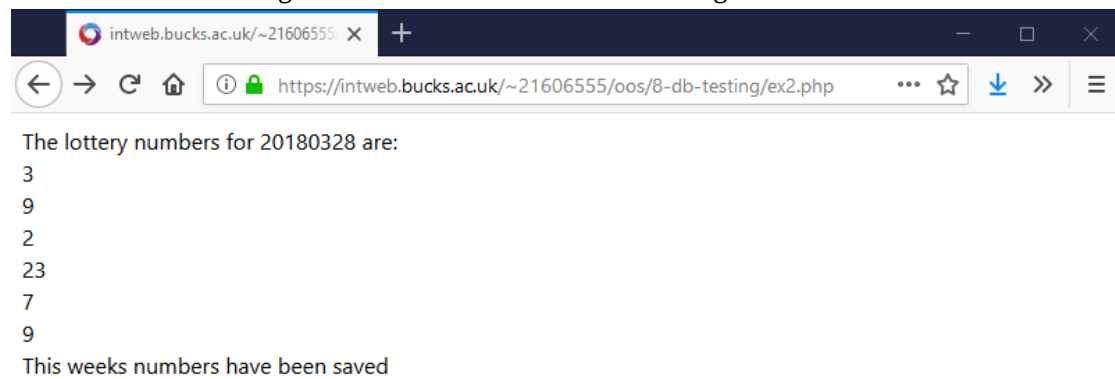


Figure 8.7: Data in database

	wk	lottodate	number1	number2	number3	number4	number5	number6
<input type="checkbox"/> Edit Copy Delete	1	2018-03-28	43	23	15	5	31	35
<input type="checkbox"/> Edit Copy Delete	2	2018-03-28	3	9	2	23	7	9

## 8.4 Exercise 4

<https://intweb.bucks.ac.uk/~21606555/oos/8-db-testing/ex4.php>

Figure 8.8: ex4.php

```
1  <?php
2      $hostname = "localhost";
3      $username = "21606555";
4      $password = "mysqluser";
5      $database = "db1_21606555";
6      $db = new mysqli($hostname, $username, $password, $database);

7      if ($db->connect_errno) {
8          printf("Connect failed: %s\n", $db->connect_error);
9          exit();
10     }

11     if ($_POST[selweek]) {
12         $query = "SELECT * FROM lotto WHERE wk=?";
13         $sql = $db->prepare($query);
14         $sql->bind_param('i', $_POST[selweek]);
15         $sql->execute();
16         $sql->bind_result(
17             $wk,
18             $lottodate,
19             $number1,
20             $number2,
21             $number3,
22             $number4,
23             $number5,
24             $number6
25         );
26         $sql->fetch();

27         date_default_timezone_set('Europe/London');
28         $date = date("jS F, Y", strtotime($lottodate));
29         printf("Lotto numbers for %s (week %s)<br>", $date, $wk);

30         for ($n = 1; $n < 7; $n++) {
31             // Dynamically referencing number1 to 6 with ${...}
32             printf("Number %s is %s<br>", $n, ${'number' . $n});
33         }
34     } else {
35         $query = "SELECT wk FROM lotto";
36         $sql = $db->prepare($query);
```

```

37     $sql->execute();
38     $sql->bind_result($wk);

39     echo "<form action='$_SESSION[PHP_SELF]' method='post'>";
40     echo "<br>Select the lottery week: ";
41     echo "<select name='selweek'>";

42     while ($sql->fetch()) {
43         echo "<option value='$wk'>$wk</option>";
44     }

45     echo "</select><br>";
46     echo "<input type='submit' value='Select'>";
47     echo "</form>";
48 }
49 ?>

```

Figure 8.9: Selecting from weeks in database

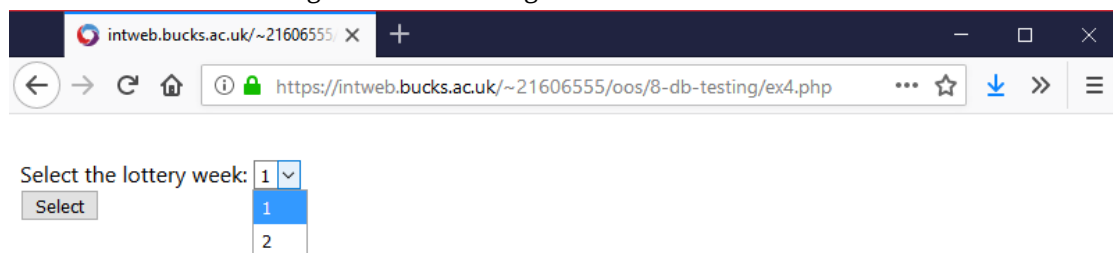
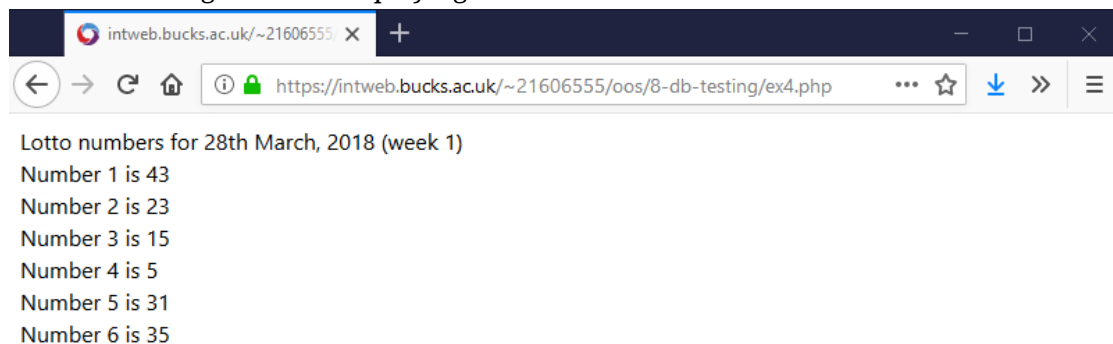


Figure 8.10: Displaying lotto numbers from the selected week



## 8.5 Exercise 5

Figure 8.11: Design for the lotto results page with navigation to prev/next week

