

Assignment Title: Netcentric Assignment II

Student Name: Huang Jian Wei

Matric No: U1521567A

Tutorial Group: TS1

Date: 20/3/2017

# **Assignment Overview**

#### YOUR TASKS

1) Write an HTML document to create a form that contains:

A text box to collect the user's name.

Three text boxes for the user to key in the numbers of apples (69 cents each), oranges (59 cents each), and bananas (39 cents each) to purchase respectively. Whenever the user's input in any of these text boxes changes, the validity of the input is checked at the client side using JavaScript. A valid input is defined as a sequence of one or more digits. If the input is not valid, an alert message is produced and the user is asked to input again.

A text box showing the total cost of the user's order. The purpose of this text box is to show the total cost of order to the user during his selection. This text box is not for user's input, so it should be **blurred** whenever it acquires focus. Whenever the user's input in any of the above three text boxes changes, if the input is not valid, this text box should display "NaN", and if the input is valid, the total cost of the user's order is recalculated and displayed in this text box. This calculation is to be done completely at the client side using JavaScript.

A collection of three radio buttons that are labeled as Visa, MasterCard and Discover. This is for the user to input his payment method.

- Submit button. On completing the form, the user clicks this button to submit his order to the web server.
- 2) Write a server-side PHP program that receives the user's order when the Submit button on the above HTML document is clicked. On receiving the order, the server-side PHP program computes the total cost of the user's order and returns an HTML document to the user as a receipt. The receipt should specify the user's name, what are ordered and the payment method in the form of a table. In addition, the server-side PHP program must also update a file named "order.txt" stored on the web server to reflect the new order. The file records the total numbers of apples, oranges and bananas ordered by all users so far in the following format:

```
Total number of apples: 12
Total number of oranges: 23
Total number of bananas: 35
```

### Introduction

To summarize up the tasks, there should be a front-end form written in HTML and the backend written in PHP, consisting of logic to process the data submitted by the client. Javascript will be used to handle event on the frontend, such as validation of user inputs. The server will also generate a receipt output which is in text format, as well as a HTML document that will display to the client the receipt on the web browser itself. This report will describe the various steps and codes taken to complete the task.

#### Client Side HTML - ClientForm.html

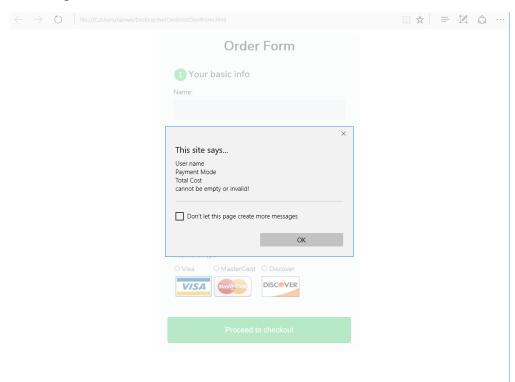
```
<!DOCTYPE html>
    ⊟<head>
                 <meta charset="utf-8">
                 <meta name="viewport" content="width=device-width, initial-scale=1.0">
                 <title>Online Fruit order</title>
                 <link rel="stylesheet" href="css/normalize.css">
                 <link href='http://fonts.googleapis.com/css?family=Nunito:400,300' rel='stylesheet' type='text/css</pre>
                <link rel="stylesheet" href="css/normalize.css">
10 | <script>
     <!--Javascript function to validate numbers input--!>
12 function validationAndCalculate(f) {
     var re = /^[\d]*$/;
14 if (!re.test(f.value)) {
     alert("Please Enter a valid input! Only numbers are allowed");
f.value = f.value.replace(/[^\d]/g,"");
     MainActivity.totalCost.value="NaN";
18
19 delse{
            var noOfApple=document.getElementById('appleQuantity').value;
             var noOfOrange=document.getElementById('orangeQuantity').value;
             var noOfBanana=document.getElementById('bananaQuantity').value;
24
            var costOfApple = noOfApple*0.69;
            var costOfOrange = noOfOrange*0.59;
26
27
            var costOfBanana = noOfBanana*0.39;
28
29
             var totalCost = costOfApple+costOfOrange+costOfBanana;
             totalCost = parseFloat(totalCost).toFixed(2);
30
            MainActivity.totalCost.value=totalCost;
     - }
33 function disableBox() {
34
            document.getElementById('totalCost').blur();
35
    function validateNaN() {
         var totalCost=document.forms["MainActivity"]["totalCost"].value;
var user name=document.forms["MainActivity"]["user name"].value;
var appleQuantity = document.forms["MainActivity"]["appleQuantity"].value;
var orangeQuantity=document.forms["MainActivity"]["bananaQuantity"].value;
var bananaQuantity=document.forms["MainActivity"]["bananaQuantity"].value;
42
43
44
45
         var paymentMode = document.forms["MainActivity"]["paymentMode"].value;
46
47
          var errorMessage="Please enter:\n";
          if((totalCost==null || totalCost=="") || (user_name==null || user_name=="") || (paymentMode==null || paymentMode=="")) {
49
50
              if((user name==null || user name=="")){
              errorMessage += "User name\n";
              if((paymentMode==null || paymentMode=="")) {
errorMessage += "Payment Mode\n";
54
55
56
              if((totalCost==null || totalCost=="")){
              errorMessage += "Total Cost\n";
59
60
              errorMessage += "cannot be empty or invalid!"
63
64
65
         alert (errorMessage);
67
68
69
70
         return false;
71
72
73
74
75
     </script>
      </head>
```

Figure 1.1 Content in head. Metadata and Javascript

The content <head> tag contains several metadata of the web application. The default title is changed using the <title> tag. External cascading style sheets(.css) resource files was place in a css resource folder and accessed using "link rel". The .css files will be use to provide various formatting with regards to table as well as form in my web application. To provide validation for user's input, Javascript has to be implemented. There is a total of three ways to declare Javascript; inline, external and internal. In this case, the internal JavaScript is used. The <script> tag will mark the start of the JavaScript.

As mentioned previously, JavaScript will be mainly dealing with event handling of the client-side inputs and actions. As the assignment requires Javascript to check the validity of user inputs, a validation function called "validationAndCalculate(f)" was created to check whether the user input for the quantity of fruits, digit(s), is valid. If it is invalid, the "total cost" field will be shown as invalid(NaN). However, if user input is valid, the quantity of individual fruit will be calculated according to the price of each fruit. Total cost is then calculated and displayed in the form. In addition, the total cost field should not be edited by the user, therefore there is a Javascript function to blur the total cost field when it gained focus.

User should also not be able to proceed to checkout if there are empty field in either username, payment type or all three of the fruits item are null. An error alert will be prompt informing which input the user did not fill in.



*Figure 1.2 Error prompt if empty field(s)* 

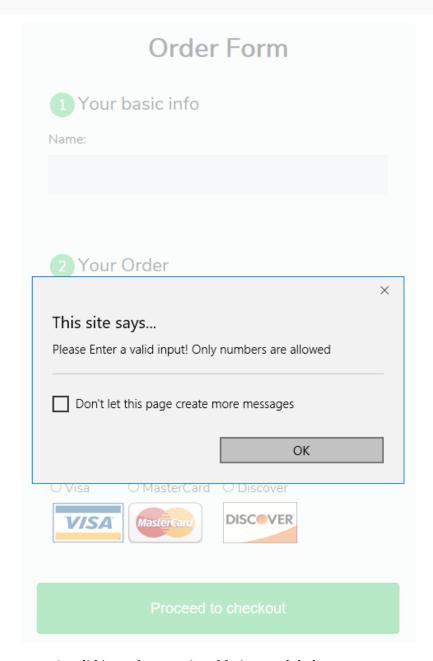


Figure 1.3 If user enters invalid input for quantity of fruits e.g alphabets

Order Form			
1 Your basic info			
Name:			
2 Your Order			
No. Of Apple (69¢) :  No. Of Orange (59¢) :  No. Of Banana (39¢) :  Total Cost (nearest ¢) : NaN			
3 Your Payment Type			
Payment Type			
○ Visa ○ MasterCard ○ Discover     VISA   MasterCard   DISC   VER			
Proceed to checkout			

Figure 1.4 Total Cost showing NaN if invalid input from Figure 1.4

In the main body of the client html, we will be declaring a form which action will bring us to the server to process the data send by the user.

```
<body>
<form id="MainActivity" action="server.php" method="post">
```

The rest of the data are formatted using tables and the payment type is determined by radio button inputs. The payment type are grouped under the same name so that only one can be chosen.

```
<fieldset>
<legend><span class="number">2</span>Your Order</legend>
No. Of Apple (69 ¢) :  
  <input id="appleQuantity" name="appleQuantity" style="width:75px;" onchange="validationAndCalculate(this)" >
  \langle t.r \rangle
   No. Of Orange (59 ¢) :  
   < t.d >
   <input id="orangeQuantity" name="orangeQuantity" style="width:75px;" onchange="validationAndCalculate(this)">
   No. Of Banana (39 ¢) :  
   <t.d>
   <input id="bananaQuantity" name="bananaQuantity" style="width:75px;" onchange="validationAndCalculate(this)">
   Total Cost (nearest ¢) :  
   <input id="totalCost" name="totalCost" style="width:75px;" onfocus="disableBox()" value="" max="4">
   </fieldset>
```

Figure 1.4 Codes of tables formatting data

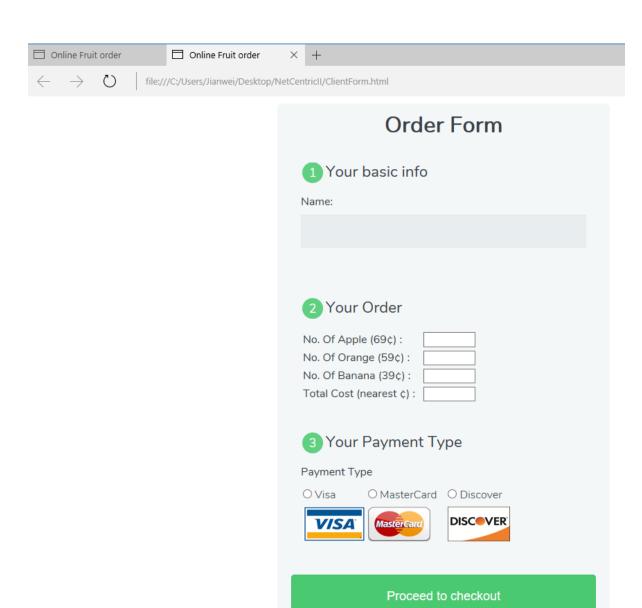


Figure 1.5 Image of order form

Server side php – server.php

In the server side, data from the client side are assign to local variables. The initial assignment statements ensure that data are stored locally so I can use them easily during processing. It uses POST to achieve this \$variable = \$\_POST[variableName];

```
//grab information from client side
     $name = $_POST["user_name"];
     $paymentMode = $ POST["paymentMode"];
     $noOfApples = $_POST["appleQuantity"];
     $noOfOrange = $_POST["orangeQuantity"];
     $noOfBanana = $_POST["bananaQuantity"];
9
     //variable declaration and assignments
     $appleCost = 0.69;
12
     $orangeCost = 0.59;
     $bananaCost = 0.39;
14
     $totalAppleCost = $appleCost*$noOfApples;
15
     $totalOrangeCost = $orangeCost*$noOfOrange;
16
     $totalBananaCost = $bananaCost*$noOfBanana;
17
18
     $totalCost = $totalAppleCost + $totalOrangeCost + $totalBananaCost;
19
     //Set to 2decimal place
20
     number format((float)$totalCost, 2, '.', '');
     //Get current Timestamp
22
     date_default_timezone_set('Asia/Singapore');
23
     Snow = mktime():
    $currTime = date('l js \of F Y h:i:s A',$now);
```

Figure 1.6 Assignments of values in server side

Next, I declare the cost of each fruit to compute for the total cost. Alternatively, I am able to grab the total cost of the fruits from the client side if I want. Since we ultimately going to output to a receipt in text format, I have decided to obtain the current date time from the server system every time before it prints into the receipt, specifying the order time.

The next part of this document are codes that output a html file and at the very end, we redirect the client to the specific resource page. Content of output files will be first stored as string and written into the file itself using fwrite.

```
//save receipt in string and output to file
$varOrdersOutput =
$varReceiptOutput ="";
$varOrdersOutput .= "
$varOrdersOutput .= "Order By : ". $name."\r\n";
$varOrdersOutput .= "Timestamp: " . $currTime ."\r\n";
$varOrdersOutput .= "=======
                                                                 ----"."\r\n";
$varOrdersOutput .= "Orders: " ."\r\n";
$varOrdersOutput .= "===
varOrdersOutput .= "\r\n";
$varReceiptOutput .= '<!DOCTYPE html>'."\r\n";
$varReceiptOutput .= '<head>'."\r\n";
$\text{VarReceiptOutput} := '\text{ http-equiv="content-type" content="text/html;charset=UTF-8"/>'."\r\n";
$\text{$varReceiptOutput} := '<title>Receipt</title>'."\r\n";
$\text{$varReceiptOutput} := "<\link href='\frac{http://fonts.googleapis.com/css?family=Nunito:400,300}' rel='stylesheet' type='text/css'>"."\r\n";
$varReceiptOutput := '\link rel="stylesheet" href="css/tables.css">'."\r\n";
$varReceiptOutput := '\leftarabel{head}'."\r\n";
$varReceiptOutput := '\leftarabel{head}'."\r\n";
$varReceiptOutput := '\hlank Receipt of Order by: '.\name.'</hl>'.\n';
$varReceiptOutput := ''.\n';
//first Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Type of Fruits.'."\r\n";
$varReceiptOutput .= 'Quantity.'."\r\n";
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= ''."\r\n";
//2nd Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Apples'."\r\n" ;
$\text{varReceiptOutput := 'tct data-th="appleQuantity">'.$noofApples.''."\r\n";
$\text{varReceiptOutput := 'tct data-th="applePrice">$0.69'."\r\n";
$\text{varReceiptOutput := 'tct data-th="totalAppleCost">$'.$totalAppleCost.''."\r\n";
$\text{varReceiptOutput := 'tct data-th="totalAppleCost">$'.$totalAppleCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
//3rd Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Oranges'."\r\n" ;
$varReceiptOutput .= ''.$noOfOrange.''."\r\n";
$varReceiptOutput .= '$0.59'."\r\n";
$varReceiptOutput .= '$'.$totalOrangeCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
 //4th Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Bananas'."\r\n" ;
$varReceiptOutput .= ''.$noOfBanana.''."\r\n";
$varReceiptOutput .= '$0.59'."\r\n";
$varReceiptOutput .= '$'.$totalBananaCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
 //5th Row
\ varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Total Cost'."\r\n" ;
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= '$'.$totalCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= '</body>'."\r\n";
 //output to receipt file
$myfile = fopen("orderRecords.txt", "a") or die("Unable to open file!");
fwrite($myfile,$varOrdersOutput);
fclose ($myfile);
 //output to html view
$receiptFile = fopen("Receipt.html", "w") or die("Unable to open file!");
fwrite ($receiptFile, $varReceiptOutput);
fclose ($receiptFile);
header ("Location: Receipt.html");
exit;
```

Figure 1.7 Codes of generating HTML file and receipt text file



# Receipt of Order by: Huang Jian Wei

# Order Time: Wednesday 5th of April 2017 09:27:38 PM

Type of Fruits.	Quantity.	Cost/Quantity.	Total Cost.
Apples	4	\$0.69	\$2.76
Oranges	3	\$0.59	\$1.77
Bananas	3	\$0.59	\$1.17
Total Cost			\$5.7

Back

Figure 1.8 Receipt page showing order to user



File Edit Format View Help

\_\_\_\_\_

Order By : Huang Jian Wei

Timestamp: Wednesday 5th of April 2017 09:41:27 PM

\_\_\_\_\_

Orders:

Total number of apples : 4
Total number of oranges : 3
Total number of bananas : 4

Payment Type : MasterCard

\_\_\_\_\_

Figure 1.9 Receipt output in orderRecords.txt

### **Assumptions:**

Assume person name does not contain numbers. (Validated using Javascript)

#### Task checklist

Task Description	Server/Client	Done
Textbox to collect user's name	Client	✓
Three textbox to key in number of apples, oranges, and	Client	✓
banana		
Alert error message if invalid data and allow user to	Client	✓
reenter input		
Check validity of input using Javascript	Client	✓
Textbox showing total cost	Client	✓
Total cost check box blurred when gain focus	Client	✓
Display NaN when input is invalid	Client	✓
Calculation of fruits done by Javascript	Client	✓
Radio button for payment type: Mastercard, Visa and	Client	✓
Discover		

Submit to Form to Server	Client	<b>√</b>
Receive user order when user press submit	Server	<b>✓</b>
Server-side compute total cost	Server	<b>✓</b>
Server returns receipt on HTML form	Server	<b>✓</b>
Create a order.txt file to reflect the new order	Server	<b>✓</b>

### Appendix A – ClientForm.html Codes

```
<!DOCTYPE html>
∃<head>
         <meta charset="utf-8">
         <meta name="viewport" content="width=device-width, initial-scale=1.0">
         <title>Online Fruit order</title>
         <link rel="stylesheet" href="css/normalize.css">
         <link href='http://fonts.googleapis.com/css?family=Nunito:400,300' rel='stylesheet' type='text/css'>
         <link rel="stylesheet" href="css/normalize.css">
||<script>
<!--Javascript function to validate numbers input--!>
function validationAndCalculate(f) {
var re = /^[\d]*$/;
if (!re.test(f.value)) {
alert("Please Enter a valid input! Only positive integers are allowed");
f.value = f.value.replace(/[^\d]/g,"");
MainActivity.totalCost.value="NaN";
else{
      var noOfApple=document.getElementById('appleQuantity').value;
      \textit{var} \texttt{ noOfOrange=} document.getElementById('orangeQuantity').value; \\
      var noOfBanana=document.getElementById('bananaQuantity').value;
      var costOfApple = noOfApple*0.69;
      var costOfOrange = noOfOrange*0.59;
      var costOfBanana = noOfBanana*0.39;
      var totalCost = costOfApple+costOfOrange+costOfBanana;
      totalCost = parseFloat(totalCost).toFixed(2);
     MainActivity.totalCost.value=totalCost;
- }
function disableBox() {
      document.getElementById('totalCost').blur();
function validateNaN() {
     var totalCost=document.forms["MainActivity"]["totalCost"].value;
    var user_name=document.forms["MainActivity"]["user_name"].value;
    var appleQuantity = document.forms["MainActivity"]["appleQuantity"].value;
     var orangeQuantity=document.forms["MainActivity"]["orangeQuantity"].value;
     var bananaQuantity=document.forms["MainActivity"]["bananaQuantity"].value;
     var paymentMode = "";
     var paymentModeArr = document.getElementsByName("paymentMode");
    for (var i = 0; i < paymentModeArr.length; i++) {</pre>
    if (paymentModeArr[i].checked) {
```

```
paymentMode = paymentModeArr[i].value;
   var errorMessage="Please enter:\n" ;
   | errorMessage+= paymentMode; | errorMessage+= paymentMode; | if((totalCost==null || totalCost=="") || (user_name==null || user_name=="") || (paymentMode==null || paymentMode=="")) |
       if((user_name==null || user_name=="")){
errorMessage += "User name\n";
      if((paymentMode==null || paymentMode=="")){
errorMessage += "Payment Mode\n";
       if((totalCost==null || totalCost=="")){
       errorMessage += "Total Cost\n";
      errorMessage += "cannot be empty or invalid!"
   alert (errorMessage);
   return false:
</script>
</head>
   <body>
     <form id="MainActivity" action="server.php" method="post">
  <h1>Order Form</h1>
  <fieldset>
   <legend><span class="number">1</span>Your basic info</legend>
    <label for="name">Name:</label>
    <input type="text" id="name" name="user name" onchange="validation()">
  </fieldset>
  <fieldset>
  <legend><span class="number">2</span>Your Order</legend>
  No. Of Apple (69¢) :  
     <input id="appleQuantity" name="appleQuantity" style="width:75px;" onchange="validationAndCalculate(this)" >
     No. Of Orange (59¢) :  
      <input id="orangeQuantity" name="orangeQuantity" style="width:75px;" onchange="validationAndCalculate(this)">
      No. Of Banana (39 cent;) : cnbsp;
      <645
      <input id="bananaQuantity" name="bananaQuantity" style="width:75px;" onchange="validationAndCalculate(this)">
```

```
<fieldset>
               <legend><span class="number">3</span>Your Payment Type</legend>
                  <label>Payment Type</label>
                >
               <input type="radio" id="Visa" value="Visa" name="paymentMode"><label for="paymentMode" class="light">Visa</label>
                 $\documents$ \left\{ \text{chbsp;} \text{chbsp
                  <t.d>
               <input type="radio" id="MasterCard" value="MasterCard" name="paymentMode" > label for="paymentMode" class="light" > MasterCard / label >
               <
                <t.d>
               <input type="radio" id="Discover" value="Discover" name="paymentMode" ><label for="paymentMode" class="light">Discover</label>
                >
                <img src="resource/visa.png" title="visaImage" style="width:90px;height:50px;"/>
                <img src="resource/mastercard.png" title="mastercardImage" style="width:90px;height:50px;"/>
                <img src="resource/discover.jpg" title="discoverImage" style="width:90px;height:50px;"/>
                </fieldset>
         <button type="submit" onclick="return validateNaN()">Proceed to checkout</button>
    </form>
</body>
```

</html>

```
∃<?php
 //grab information from client side
 $name = $ POST["user name"];
 $paymentMode = $ POST["paymentMode"];
 $noOfApples = $ POST["appleQuantity"];
 $noOfOrange = $ POST["orangeQuantity"];
 $noOfBanana = $_POST["bananaQuantity"];
 //variable declaration and assignments
 appleCost = 0.69;
 $orangeCost = 0.59;
 \$bananaCost = 0.39;
 $totalAppleCost = $appleCost*$noOfApples;
 $totalOrangeCost = $orangeCost*$noOfOrange;
 $totalBananaCost = $bananaCost*$noOfBanana;
 $totalCost = $totalAppleCost + $totalOrangeCost + $totalBananaCost;
 //Set to 2decimal place
 number format((float)$totalCost, 2, '.', '');
 //Get current Timestamp
 date default timezone set('Asia/Singapore');
 $now = mktime();
 $currTime = date('l jS \of F Y h:i:s A',$now);
```

```
$varReceiptOutput .= '<!DOCTYPE html>'."\r\n";
 $varReceiptOutput .= '<head>'."\r\n";
 $varReceiptOutput .= '<meta http-equiv="content-type" content="text/html;charset=UTF-8"/>'."\r\n";
 $varReceiptOutput .= '<title>Receipt</title>'."\r\n";
 $varReceiptOutput .= "<link href='http://fonts.googleapis.com/css?family=Nunito:400,300' rel='stylesheet' type='text/css'>"."\r\n";
 $varReceiptOutput .= '<link rel="stylesheet" href="css/tables.css">'."\r\n";
 $varReceiptOutput .= '</head>'."\r\n";
$varReceiptOutput .= '<body>'."\r\n";
 $varReceiptOutput .= '<h1>Receipt of Order by: '.$name.'</h1>'."\r\n";
 $\text{SvarReceiptOutput = "\chi\porder Time: " \ \chi\porder Time." \ \chi\porder Time. \ \ \
 $varReceiptOutput .= ''."\r\n";
 //first Row
 $varReceiptOutput .= ''."\r\n" ;
 SvarReceiptOutput := ''\limbris'."\r\n";
SvarReceiptOutput := '\Quantity.'."\r\n";
 $varReceiptOutput .= 'Cost/Quantity.'."\r\n";
$varReceiptOutput := 'Total Cost.'."\r\n";
$varReceiptOutput := ''."\r\n";
//2nd Row
```

```
//2nd Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Apples'."\r\n" ;
$varReceiptOutput .= ''.$noOfApples.''."\r\n";
$varReceiptOutput .= '$0.69'."\r\n";
$varReceiptOutput .= '$'.$totalAppleCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
//3rd Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Oranges'."\r\n" ;
$varReceiptOutput .= ''.$noOfOrange.''."\r\n";
$varReceiptOutput .= '$0.59'."\r\n";
$varReceiptOutput .= '$'.$totalOrangeCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
//4th Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Bananas'."\r\n";
$varReceiptOutput .= ''.$noOfBanana.''."\r\n";
$varReceiptOutput .= '$0.59'."\r\n";
$varReceiptOutput .= '$'.$totalBananaCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
//5th Row
$varReceiptOutput .= ''."\r\n" ;
$varReceiptOutput .= 'Total Cost'."\r\n" ;
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= '$'.$totalCost.''."\r\n";
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= ''."\r\n";
$varReceiptOutput .= '<br><'."\r\n";</pre>
$varReceiptOutput .= '<button onclick="history.go(-1);">Back </button>';
```

\$varReceiptOutput .= '</body>'."\r\n";

```
//output to receipt file
$myfile = fopen("orderRecords.txt", "a") or die("Unable to open file!");
fwrite($myfile,$varOrdersOutput);
fclose($myfile);

//output to html view
$receiptFile = fopen("Receipt.html", "w") or die("Unable to open file!");
fwrite($receiptFile,$varReceiptOutput);
fclose($receiptFile);

header("Location: Receipt.html");
exit;
```

-?>