

Testing

| Test No. | Module | Description | Test Type | Expected Outcome | Pass/Fail | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|--|------------------|---|--|----------|-----------|----------|-------|----------|---|---|------------|---------|------------------------------|--|---|---|------|-------|--------------------|--|-------------|---------|------|---------|----------|-----------|------------|----|--------|---------------|---------|----------------------------|------------|----|--------|------------------|---------|----------------------------|--|
| 1 | Register | Inputting the correct name, email and password(in the correct format) into all the inputs. | Normal | The user should be added to the database. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <div> <div> <div>Create an account</div> <div>First Name</div> <div>Jack</div> <div>Last Name</div> <div>Smith</div> <div>Email Address</div> <div>jack20@hotmail.com</div> <div>Password</div> <div>*****</div> <div>Password Confirmation</div> <div>*****</div> <div>Next</div> </div> <div> <div>Create an account</div> <div>Phone Number</div> <div>07488982404</div> <div>Country</div> <div>UK</div> <div>City</div> <div>London</div> <div>Address</div> <div>Victoria Road 17</div> <div>Postcode</div> <div>HA4 0LS</div> <div>Previous</div> <div>Submit</div> </div> </div> <div> <table> <thead> <tr> <th>UserID</th><th>UserType</th><th>FirstName</th><th>LastName</th><th>Email</th><th>Password</th></tr> </thead> <tbody> <tr> <td>1</td><td>0</td><td>Abdul Bari</td><td>Ibrahim</td><td>aibrahim2015@qmschool.org.uk</td><td>\$2y\$10\$SyUo5Ff9fq40zqAWWQKz2.Nhdmu9NVcA7XQndfaTQRX...</td></tr> <tr> <td>5</td><td>1</td><td>Jack</td><td>Smith</td><td>jack20@hotmail.com</td><td>\$2y\$10\$2tOTG20eMtv/IOOaqqzNI.NfyutqO7eoFHOPySKIJ99...</td></tr> </tbody> </table> <table> <thead> <tr> <th>phoneNumber</th><th>Country</th><th>City</th><th>Address</th><th>Postcode</th><th>loginDate</th></tr> </thead> <tbody> <tr> <td>7448982707</td><td>UK</td><td>London</td><td>Victoria Road</td><td>HA4 0LS</td><td>0000-00-00 00:00:00.000000</td></tr> <tr> <td>7488982404</td><td>UK</td><td>London</td><td>Victoria Road 17</td><td>HA4 0LS</td><td>2022-01-07 10:38:30.000000</td></tr> </tbody> </table> <p>The screenshots show that the input that was given to the registration form has been successfully added to the Users table in the database, therefore, the user has been registered and so the test passed.</p> </div> | | | | UserID | UserType | FirstName | LastName | Email | Password | 1 | 0 | Abdul Bari | Ibrahim | aibrahim2015@qmschool.org.uk | \$2y\$10\$SyUo5Ff9fq40zqAWWQKz2.Nhdmu9NVcA7XQndfaTQRX... | 5 | 1 | Jack | Smith | jack20@hotmail.com | \$2y\$10\$2tOTG20eMtv/IOOaqqzNI.NfyutqO7eoFHOPySKIJ99... | phoneNumber | Country | City | Address | Postcode | loginDate | 7448982707 | UK | London | Victoria Road | HA4 0LS | 0000-00-00 00:00:00.000000 | 7488982404 | UK | London | Victoria Road 17 | HA4 0LS | 2022-01-07 10:38:30.000000 | |
| UserID | UserType | FirstName | LastName | Email | Password | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | Abdul Bari | Ibrahim | aibrahim2015@qmschool.org.uk | \$2y\$10\$SyUo5Ff9fq40zqAWWQKz2.Nhdmu9NVcA7XQndfaTQRX... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 1 | Jack | Smith | jack20@hotmail.com | \$2y\$10\$2tOTG20eMtv/IOOaqqzNI.NfyutqO7eoFHOPySKIJ99... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| phoneNumber | Country | City | Address | Postcode | loginDate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7448982707 | UK | London | Victoria Road | HA4 0LS | 0000-00-00 00:00:00.000000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7488982404 | UK | London | Victoria Road 17 | HA4 0LS | 2022-01-07 10:38:30.000000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Register | Inputting Incorrect name, email and password(in incorrect format) into all the inputs. | Erroneous | The application should output an error message underneath each input. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Create an account

First Name

First name is not valid

Last Name

Last name is not valid

Email Address

Email is not valid

Password

Password is not valid

Password Confirmation

Passwords does not match

Next

Create an account

Phone Number

Phone Number is not valid

Country

Country is not valid

City

City is not valid

Address

E.g. Door Num + Street Nam

Address is not valid

Postcode

Postcode invalid

Previous

Submit

The screenshot shows that there are errors that were printed when incorrect data were inputted into the form, therefore, the test has passed.

3

Register

Inputting an email that already exists in the Users table in the database.

Extreme

The application should output an error message informing the user that an account with that email already exists.

| UserID | UserType | FirstName | LastName | Email | Password | phoneNumber | Country | City |
|--------|----------|------------|----------|------------------------------|---|-------------|---------|--------|
| 1 | 0 | Abdul Bari | Ibrahim | aibrahim2015@qmschool.org.uk | \$2y\$10\$SyUo5Ff9f40zqAWWQKz2.Nhdmu9NVcA7XQndfaTQRX... | 7448982707 | UK | London |
| 5 | 1 | Jack | Smith | jack20@hotmail.com | \$2y\$10\$2tOTG20eMtvIOOaqzNI.NfyutqO7eoFHOPySKIJ99... | 7488982404 | UK | London |
| 6 | 1 | abdul | bari | aibrahim2015@qmschool.org.uk | \$2y\$10\$4UtaRkGNIHr/Ehh3M0ReepCUuAoDnaHvch7m.No4I/... | 7488982405 | UK | London |

The screenshot shows that two users with the same email address have been added to the database, which is not supposed to occur as two different users can't have the same email.

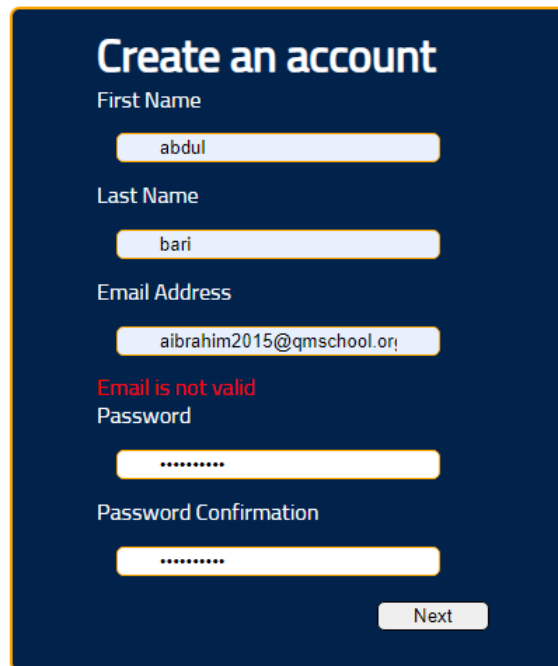
```

if (sizeof($errors) == 0) {
    $mysqli = new mysqli("localhost", "root", "", "e-commerce");
    $stmt = $mysqli->prepare("SELECT * FROM `eusers` WHERE Email=?");
    $stmt->bind_param("s", $email);
    $stmt->execute();
    $res = $stmt->get_result();
    $stmt->close();
    if ($res->num_rows > 0) {
        $row = $res->fetch_assoc();
        $errors[] = "email";
        $_SESSION["allerrors"] = $errors;
        $p = http_build_query($vals);
        header("Location: /MyEcommerce/Register.php?error=Failed Validation& . $p);
        exit;
    } else {
        $regQuery = "INSERT INTO `eusers` (`UserType`, `FirstName`, `LastName`, `Email`, `Password`, `phoneNumber`, `Country`, `City`, `Address`, `Postcode`) VALUES ($sssisssss, $fname, $lname, $email, $hashedPassword, $pNum, $country, $city, $address, $pos);";
        $stmt1 = $mysqli->prepare($regQuery);
        $stmt1->bind_param("sssisssss", $fname, $lname, $email, $hashedPassword, $pNum, $country, $city, $address, $pos);
        $stmt1->execute();
        $stmt1->close();
        header("Location: /MyEcommerce/Welcome.php");
        exit;
    }
}

```

I fixed this problem by adding extra code in the register process file. After the if statement that validates all the inputs, the extra code accesses the database and extracts any record with the

inputted email address using the SELECT query. If there are any results, then it means that the email already exists and can't be used, so the user gets an error message.



If there are no results from the select query, then the code registers the user and adds the data to the user's table.

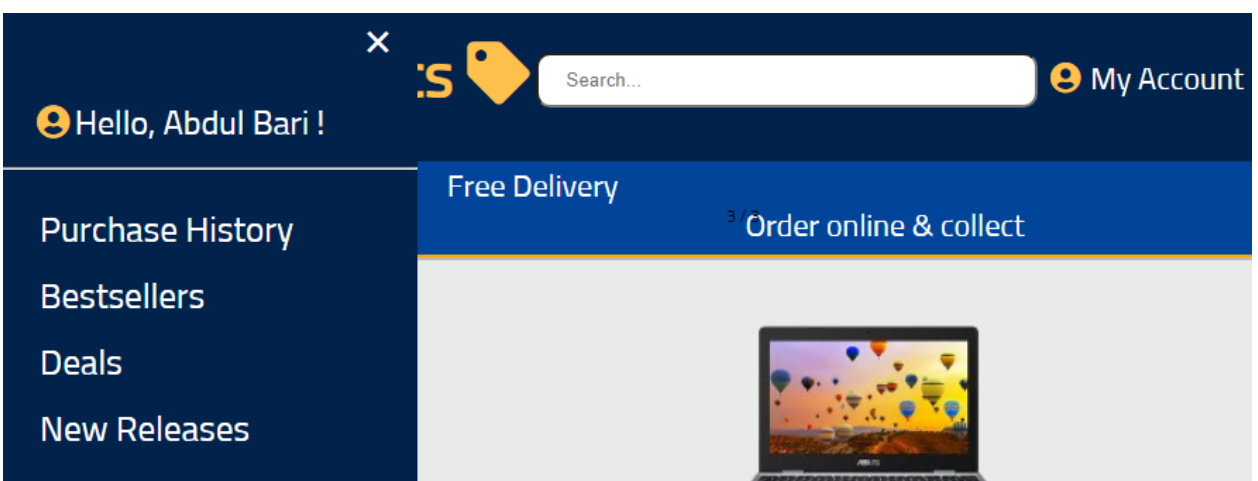
4

Login

Inputting the email and password of an existing user.

Normal

The user should be logged in and redirected to the Welcome page.



The screenshot shows the user's name in the sidebar navigation, which suggests that the user has successfully logged in, and so the test has passed.

5

Login

Inputting an email and a password that does not exist in the Users table in the database.



Extreme

The user should be redirected to the login page and an error message should be printed.

| | | | | | |
|---|--|---|-----------|---|--|
| | <div data-bbox="521 224 1093 754"><p>Please Log in</p><p>Email Address</p><input type="text"/><p>Password</p><input type="password"/><p>Email or Password is invalid</p><p>Log in</p><p>Click here to Register</p></div> <p>I entered an email address that doesn't exist in the database and received the above error, therefore, the test has passed.</p> | | | | |
| 6 | Login | Inputting correct email and an incorrect password. | Erroneous | An error message should appear informing the user that one of the inputs is incorrect. | |
| | <div data-bbox="521 1012 1093 1543"><p>Please Log in</p><p>Email Address</p><input type="text"/><p>Password</p><input type="password"/><p>Email or Password is invalid</p><p>Log in</p><p>Click here to Register</p></div> <p>I entered a correct email address that exists in the database, however, I entered the wrong password and received the above error, therefore, the test has passed.</p> | | | | |
| 7 | Browse | Search for a product that exists in the database. | Normal | The users should be redirected to the results page where they can see the products they searched for. | |
| 8 | Browse | Search for a product that does not exist in the Products Table in the database. | Erroneous | The users should be redirected to the results page and a message should appear saying no items found. | |

| | | | | |
|----|------------------------|---|---------|--|
| 9 | Browse | Search for a product in a specific category with the product existing in that category. | Normal | The users should be redirected to the results page where they can see the products they searched for. |
| 10 | Browse | Search for a product in a specific category with the product not existing in that category. | Extreme | The users should be redirected to the results page and a message should appear saying no items found. |
| 11 | Browse | Rate and Write a review for a product. | Normal | The review should be added to the database and it should appear with the rating in the correct position on the product details page. |
| 12 | Browse - Administrator | Reply to a review of a product. | Normal | The reply must be displayed under the review that has been replied to, also it should be added to the database. |
| 13 | Basket | Add a product that has stock to the basket | Normal | The product should be added and displayed in the basket. |

Items in your Basket

| | | | | |
|---|---|---|--|----------------------------|
|  |  | Windows 11 RAM 4GB 128GB SSD FULL HD Screen | Quantity <input type="text" value="1"/> | Price: £349 Total: £349 |
|---|---|---|--|----------------------------|

Total

| | |
|------------------------|---|
| Sub-Total (ex VAT): | £418.80 |
| VAT (20%): | £69.80 |
| Total: | £488.60 |
| Discount Code: | <input type="text"/> Apply |
| Check Out | |

The screenshot shows that the product has been added to the basket, showing the total price and other information about the product, so the test has passed.

| | | | | |
|------|--------|--|--------|--|
| 13.1 | Basket | Add a product that is run out of stock to the basket | Normal | The user should receive a message saying the product is not available. |
|------|--------|--|--------|--|

Best Selling Products



iPhone 12
Price: £799

Add to Basket ♡



HP 14" Laptop
Price: £349

Add to Basket ♡







Android Smart TV
Price: £249

Add to Basket ♡

Item Out Of Stock

The screenshot shows that a message has been printed informing the user that the product has run out of stock, in this case, the iPhone 12. Therefore, the test has passed.

| | | | | |
|----|--------|--|---------|--|
| 14 | Basket | Add a product that already exists in the basket. | Extreme | The quantity of the product should increase as well as the |
|----|--------|--|---------|--|





| | | | | | |
|----|---|---|--------|----------------------------------|--|
| | | | | total price. | |
| | <div><div><div>Items in your Basket</div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div><div><div>Quantity</div><div>3</div></div><div><div>Price: £349</div><div>Total: £1047</div></div></div></div></div><div><div>Total</div><div><div><div>Sub-Total (ex VAT): £1,256.40</div><div>VAT (20%): £209.40</div><div>Total: £1,465.80</div><div>Discount Code: <input type="text"/></div><div>Apply</div><div>Check Out</div></div></div></div></div><p>As we can see the quantity of the products is 3, this is because I did this using the add to basket button on the welcome page 3 times, each time it increased the quantity by 1 instead of adding the product 3 different times, therefore the test has passed.</p></div></div> | | | | |
| 15 | Basket | Increase the quantity of a product using the quantity button. | Normal | The total price should increase. | |
| | <div><div><div>Items in your Basket</div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div><div><div>Quantity</div><div>50</div></div><div><div>Price: £349</div><div>Total: £NaN</div></div></div></div></div><div><div>Total</div><div><div><div>Sub-Total (ex VAT): £1,256.40</div><div>VAT (20%): £209.40</div><div>Total: £1,465.80</div><div>Discount Code: <input type="text"/></div><div>Apply</div><div>Check Out</div></div></div></div></div><p>The screenshot shows that even though the quantity is 50, the total price hasn't changed, meaning the test has failed.</p><p>Fixing the total price in the basket div on the left was easy as I only had to add ('..') for a PHP code in the basket object file.</p><p>Before:</p><pre><div id="itemPrice"> <input type="hidden" id="price'.'.\$id.'" value="\$product->getProductPrice ()" > Price: £'.'.\$product->getProductPrice () . ' </div></pre><p>After</p><pre><div id="itemPrice"> <input type="hidden" id="price'.'.\$id.'" value="'. \$product->getProductPrice () . '</div></pre><p>However, updating the total price on the total price div on the right(in the first screenshot) was a little bit more complicated. This is because I had to use jQuery in the Basket.php file to fetch the requested HTML snippet and insert it into the page.</p></div></div> | | | | |

```
function updateTotal(id) {
    var a = document.getElementById("amount" + id).value;
    var b = document.getElementById("price" + id).value;
    var c = a * b;
    document.getElementById("total" + id).innerHTML = "Total: " + "£" + c;

    $.post("/MyEcommerce/Processors/addToBasketProcess.php",
        { Product: id, flag: true },
        function( html ) {
            $("#basketPage").html(html);
        }
    )
}
```

In the addToBasketProcess.php file, I added an if statement to check if the flag is true, and if it is then it prints the new basket with the updated total price.

```
if (isset($_REQUEST["flag"])) {
    echo $basket->printBasket();
}
else if ($product->getProductStock() > 0) {
    header("Location: /MyEcommerce/Welcome.php");
} else {
    header("Location: /MyEcommerce/Welcome.php?StockError=Item Out of Stock");
}
```

| Items in your Basket | | | | Total | |
|---|---|---|---|---|--------------|
|  |  | Windows 11 RAM 4GB 128GB SSD FULL HD Screen | Quantity <input type="text" value="28"/> | Price: £349 | Total: £9772 |
|  |  | Size: 32 Inche Resolution: 720p Type: LED | Quantity <input type="text" value="33"/> | Price: £249 | Total: £8217 |
| | | | | Sub-Total (ex VAT): £17,989.00 VAT (20%): £3,597.80 Total: £21,586.80 Discount Code: <input type="text"/> Apply Check Out | |

As shown, now the total price has been updated in both places correctly.

| | | | | | |
|---|--------|---|--------|----------------------------------|--|
| 16 | Basket | Decrease the quantity of a product using the quantity button. | Normal | The total price should decrease. | |
| <p>The reason this test failed was that when I was clicking on the decrease button, the quantity was increasing, so no matter what I clicked whether it was the increase or decrease button the quantity was increasing.</p> <p>To fix this issue, I added another attribute called quantity in the jquery function \$.post to send data to the required page. This attribute holds the value of the amount variable which is the value of the quantity button.</p> | | | | | |

```

function updateTotal(id) {
    var a = document.getElementById("amount" + id);
    var url = "addToBasketProcess.php";
    if (a.value < a.getAttribute('data-lastVal')) {
        url = "removeFromBasket.php";
    }

    $.post("/MyEcommerce/Processors/"+url,
        { Product: id, flag: true, quantity: a.value},
        function( html ) {
            $("#basketPage").html(html);
        }
    );
}

```

Then after that, I created a function in the basket object called UpdateQuantity() that takes in quantity and product as parameters. This function checks the value of the parameter quantity and if it's 0 then it uses the removeFromBasket function to remove that product from the basket using the product parameter. Otherwise, it gets the product id and updates its quantity in the basket.

```

function updateQuantity($product, $quantity) {
    if ($quantity == 0) {
        $this->removeFromBasket($product);
    } else {
        $productId = $product->getProductID();
        $this->products[$productId] = [$product, $quantity];
    }
}

```










I called this function in the removeFromBasketProcess.php file, and I passed the product using the function loadProductById function that I created previously, and for quantity, I used the attribute in the \$.post function that I mentioned above.



```

if (isset($_REQUEST["flag"])) {
    $quantity = $_REQUEST["quantity"];
    $basket->updateQuantity($product, $quantity);
    echo $basket->printBasket();
} else {
    if ($basket->removeFromBasket($product)) {
        $_SESSION["userBasket"] = $basket;
        header("Location: /MyEcommerce/Basket.php");
    } else {
        header("Location: /MyEcommerce/Basket.php?error=Item not found");
    }
}

```

This updates the quantity if decreased and prints the new version of the basket page the same way we did for increasing the quantity.

| | | | | | |
|----|---|--|--------|--|--|
| | <div><div><div>Items in your Basket</div><div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div></div><div><div>Quantity</div><div>10</div></div><div><div>Price:</div><div>£349</div><div>Total:</div><div>£3490</div></div></div></div></div><div><div>Total</div><div><div>Sub-Total (ex VAT):</div><div>£3,490.00</div></div><div><div>VAT (20%):</div><div>£698.00</div></div><div><div>Total:</div><div>£4,188.00</div></div><div><div>Discount Code:</div><div></div><div>Apply</div></div><div>Check Out</div></div></div></div></div> | | | | |
| | <div><div><div>Items in your Basket</div><div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div></div><div><div>Quantity</div><div>6</div></div><div><div>Price:</div><div>£349</div><div>Total:</div><div>£2094</div></div></div></div></div><div><div>Total</div><div><div>Sub-Total (ex VAT):</div><div>£2,094.00</div></div><div><div>VAT (20%):</div><div>£418.80</div></div><div><div>Total:</div><div>£2,512.80</div></div><div><div>Discount Code:</div><div></div><div>Apply</div></div><div>Check Out</div></div></div></div></div> | | | | |
| 17 | Basket | Delete an item from the basket. | Normal | The user should no longer see the item in the basket and the total price should decrease by the price of the deleted item. | |
| | <div><div><div>Items in your Basket</div><div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div></div><div><div>Quantity</div><div>4</div></div><div><div>Price:</div><div>£349</div><div>Total:</div><div>£1396</div></div></div></div></div><div><div><div><div><div></div><div></div><div><div>Size: 32 Inche Resolution: 720p Type: LED</div></div><div><div>Quantity</div><div>1</div></div><div><div>Price:</div><div>£249</div><div>Total:</div><div>£249</div></div></div></div></div></div><div><div>Total</div><div><div>Sub-Total (ex VAT):</div><div>£1,974.00</div></div><div><div>VAT (20%):</div><div>£329.00</div></div><div><div>Total:</div><div>£2,303.00</div></div><div><div>Discount Code:</div><div></div><div>Apply</div></div><div>Check Out</div></div></div><div><div>Items in your Basket</div><div><div><div><div><div></div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div></div><div><div>Quantity</div><div>4</div></div><div><div>Price:</div><div>£349</div><div>Total:</div><div>£1396</div></div></div></div></div><div><div>Total</div><div><div>Sub-Total (ex VAT):</div><div>£1,675.20</div></div><div><div>VAT (20%):</div><div>£279.20</div></div><div><div>Total:</div><div>£1,954.40</div></div><div><div>Discount Code:</div><div></div><div>Apply</div></div><div>Check Out</div></div></div></div><div>The first screenshot shows that there are 2 products in the basket with a total price of £2303.00, but in the second screenshot, the second item is deleted, so the total price has decreased by the amount of the deleted item plus 100 which is the VAT, therefore the test has passed.</div></div></div> | | | | |
| 18 | Basket | Add an item to the basket while the user is logged in. | Normal | The basket should be updated and no errors should appear. | |

| | | | | | |
|----|--|---|-----------|---|--|
| | <div> <div> <h3>Items in your Basket</h3> <div>   <div> Windows 11 RAM 4GB 128GB SSD FULL HD Screen </div> <div> Quantity 1 </div> <div> Price: Total: £349 £349 </div> </div> </div> <div> <h3>Total</h3> <div> Sub-Total (ex VAT): £418.80 VAT (20%): £69.80 Total: £488.60 Discount Code: <input type="text"/> Apply Check Out </div> </div> </div> <p>The screenshot shows that the product has been added to the basket, showing the total price and other information about the product, so the test has passed.</p> | | | | |
| 19 | Basket | Adding items to the basket while the user is not logged in. | Erroneous | The basket should not be updated and the user should be redirected to the login page. | |
| | The basket wasn't updated, and when the user clicks on the basket they get redirected to the login page, so the test has passed. | | | | |
| 20 | Basket | Create a new basket. | Normal | The user should see 2 different baskets in the Basket Page | |
| 21 | Checkout | Inputting valid credit card details. | Normal | The order should be added to the order table. | |
| | <p>The reason why this test has failed was that in the DoCheckout.php file I did not consider what would happen if the user didn't check the checkbox. Therefore, to fix this I added an if statement that checks if the checkbox SaveCard is not set, if it's not set then insert the details of the card into the order table and instead of inserting the card id it just inserts the card number used. I tested this by checking out without saving the card and the result was that the order details were added to the order table.</p> <pre> if (isset(\$saveCard)) { \$stmt = \$mysqli->prepare("SELECT * FROM `epayment_methods` WHERE CardNumber=?"); \$stmt->bind_param("i", \$cardNum); \$stmt->execute(); \$res = \$stmt->get_result(); \$stmt->close(); if (\$res->num_rows == 1) { \$row = \$res->fetch_assoc(); \$messages[] = "card is already saved"; } else { \$regQuery = "INSERT INTO `epayment_methods` (`CustomerID`, `CardNumber`, `Exp_Date`, `CVV`) VALUES (?, ?, ?, ?)"; \$stmt2 = \$mysqli->prepare(\$regQuery); \$stmt2->bind_param("iisi", \$userID, \$cardNum, \$exp, \$cvv); \$stmt2->execute(); \$stmt2->close(); \$messages[] = "card has been saved"; } } if (!isset(\$saveCard)) { \$orderQuery = "INSERT INTO `eorders` (`UserID`, `PaymentID`, `totalPrice`) VALUES (?, ?, ?)"; \$stmt1 = \$mysqli->prepare(\$orderQuery); \$stmt1->bind_param("iii", \$userID, \$cardNum, \$price); \$stmt1->execute(); \$stmt1->close(); \$messages[] = "Order has been submitted"; \$_SESSION["allmessages"] = \$messages; header("Location: /MyEcommerce/Welcome.php"); exit; } </pre> | | | | |
| 22 | Checkout | Inputting invalid credit card details. | Erroneous | An error message should appear to the user stating the | |

| | | | | | |
|----|---|--|--------|---|--|
| | | | | invalid inputs. | |
| | <p>The user did not receive any error messages, so the test has failed.</p> <p>I fixed the problem by using the errors array that I had created earlier in the DoCheckout.php file and stored it in the session by calling it in the checkout.php file which represents the checkout page. I used this array to check which inputs are invalid as any input that is invalid was added to the array in the DoCheckout.php file, and based on the input name in the array I printed the required message. I tested this again by leaving all inputs blank and the error messages were printed successfully.</p> <pre><?php \$myErrors = array(); if (isset(\$_SESSION["allerrors"])) { \$myErrors = \$_SESSION["allerrors"]; unset(\$_SESSION["allerrors"]); } ?></pre> <pre><div id="cardNum"> <p id="Label">Card Number</p> <p><input class="textInput" type="text" name="cardNum" /></p> <?php if (in_array("cardNum", \$myErrors)) { echo "<p class='errorMessage'>Card Number is not valid</p>"; } ?> </div> <input class="textInput" type="text" name="exp" placeholder="Expiry Date" style="width:40%; float:left"/> <input class="textInput" type="text" name="cvv" placeholder="CVV" style="width:30%; float:right"/> <?php if (in_array("exp", \$myErrors)) { echo "<p class='errorMessage'>Expiry Date is not valid</p>"; } if (in_array("cvv", \$myErrors)) { echo "<p class='errorMessage'>CVV is not valid</p>"; } ?></pre> | | | | |
| | <div><div><div><div><div>Shipping Details</div><div>First Name</div><div><input type="text"/></div><div>Last Name</div><div><input type="text"/></div><div>Phone Number</div><div><input type="text"/></div><div>Country</div><div><input type="text"/></div><div>Address</div><div><input type="text" value="E.g. Door Num + Street Nam"/></div><div>Postcode</div><div><input type="text"/></div></div></div><div><div>Card Details</div><div>Card Number</div><div><input type="text"/></div><div>Card Number is not valid</div><div>Expiry Date</div><div><input type="text"/></div><div>CVV</div><div><input type="text"/></div><div>Expiry Date is not valid</div><div>CVV is not valid</div><div><input type="checkbox"/> Save Card for Future Purchases</div></div></div><div><div>Save</div></div></div> | | | | |
| 23 | Checkout | Ticking the box to allow the system to store the card in the database. | Normal | The card should be saved and stored in the payment table in the database. | |

Shipping Details

First Name

abdul

Last Name

bari

Phone Number

07488982404

Country

UK

Address

Victoria Road 17

Postcode

HA4 0LS

Card Details

Card Number

5512345678923145

8/25

7777

☒ Save Card for Future Purchases

Save

| CardID | CustomerID | CardNumber | Exp_Date | CVV | addedDate |
|--------|------------|------------------|----------|------|----------------------------|
| 1 | 1 | 5512345678912345 | 8/24 | 1234 | 2021-12-01 13:03:05.796456 |
| 21 | 1 | 5512345678954321 | 8/29 | 4321 | 2021-12-17 09:24:36.668198 |
| 22 | 1 | 5512345678945321 | 8/24 | 1234 | 2021-12-17 10:21:01.357589 |
| 23 | 1 | 5512345678923145 | 8/25 | 7777 | 2022-01-24 14:33:19.118144 |

The screenshots show that the credit card details have been added to the payments table so the test has passed.

24

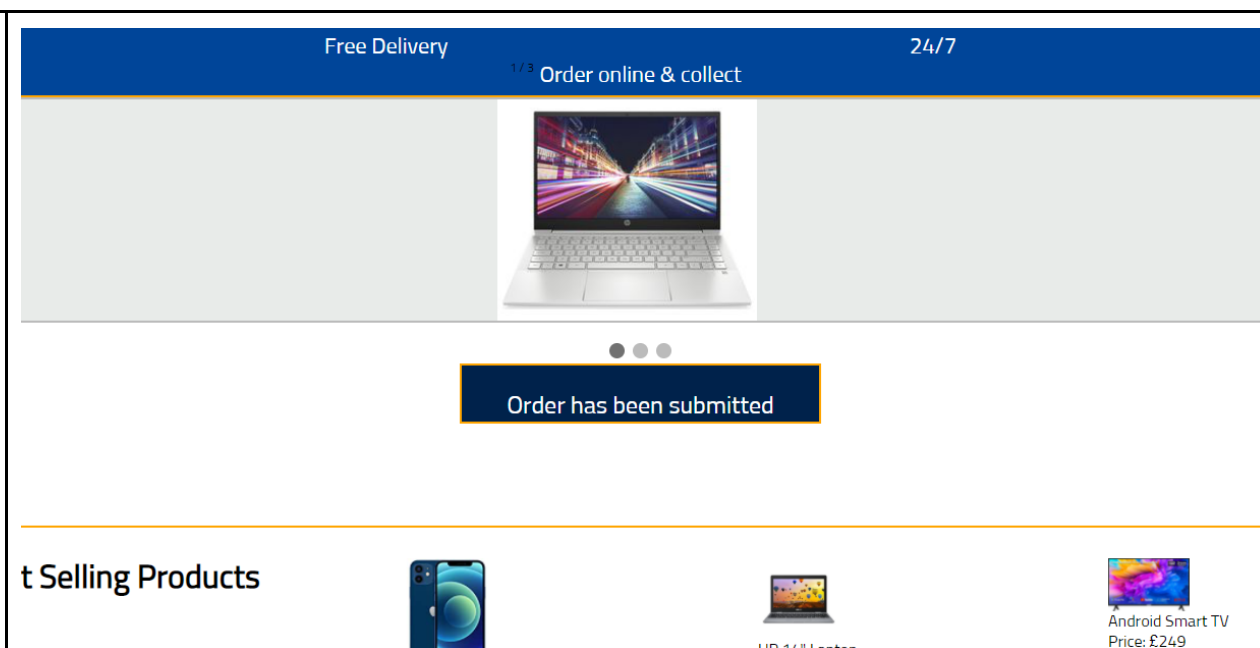
Checkout

Not allowing the system to store the card by not ticking the box.

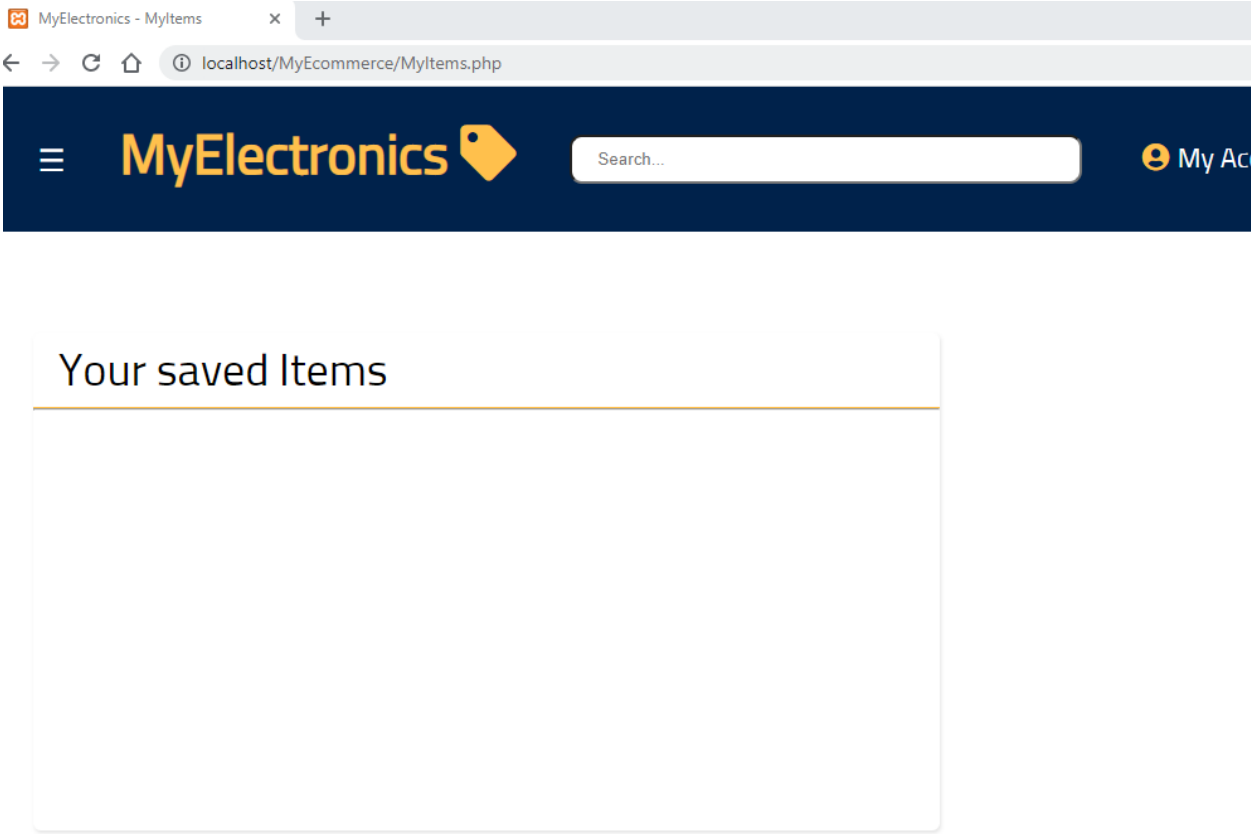
Normal

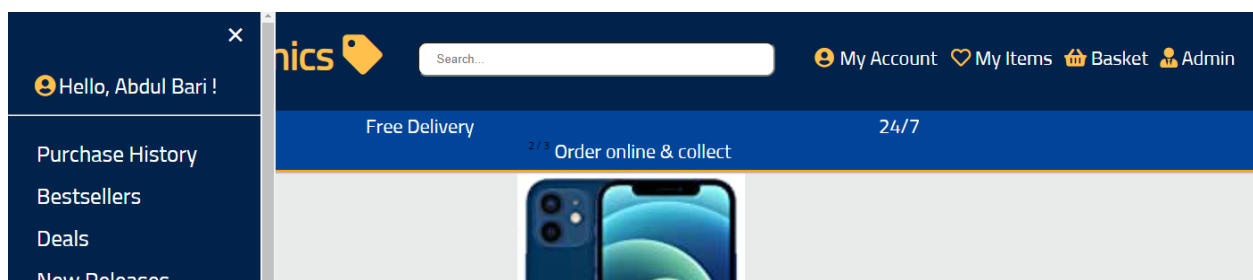
The card should not be saved and stored in the payment table in the database.

After clicking save, the user was redirected to the welcome page, receiving a message saying the order has been submitted which disappears after 3 seconds. Without saving the card, the test has passed.



| | | | | |
|----|-------------------------------|--|-----------|---|
| 25 | Purchase History | Adding items to the basket and checking out with valid credit card numbers, sort codes, dates and billing addresses. | Normal | The purchase history should be updated and the user should be able to see the items he/she purchased. |
| 26 | Administrator - Delete a user | Delete a user that exists in the database by typing the first name and the ID in the search bar | Normal | The user should be deleted from the system. |
| 27 | Administrator - Delete a user | Try and delete a user that doesn't exist in the database by searching the first name and the ID | Erroneous | An error message should appear informing the admin that the user doesn't exist. |
| 28 | Delete a user | Login with the account that got deleted | Erroneous | The user should not be able to log in as the account got deleted from the database. |
| 29 | Stock | Update the amount of stock when the user adds a product to the basket. | Normal | The amount of stock should be decreased based on the quantity the user has purchased. |
| 30 | Admin - Stock | Add stock for a certain product. | Normal | The product table should be updated and stock should increase based on the quantity added by the admin. |
| 31 | Links | Clicking on the basket link in the header. | Normal | The user should be redirected to the basket page. |

| | | | | | |
|------|--|---|--------|---|--|
| | <div> <div> Items in your Basket <div></div> </div> <div> <div>Total</div> <div> <div>Sub-Total (ex VAT):£0.00</div> <div>VAT (20%):£0.00</div> <div>Total:£0.00</div> <div>Discount Code: <input type="text"/> Apply</div> <div>Check Out</div> </div> </div> </div> | | | | |
| 32 | Links | Clicking on the My Items link in the header. | Normal | The user should be redirected to the My Items page. | |
| |  | | | | |
| 33 | Links - Admin | Clicking on the Admin link in the header. | Normal | The administrator should be redirected to the admin page. | |
| | The admin was redirected to the page. | | | | |
| 33.1 | Links - Admin | Login with an admin account and check if the admin link appears | Normal | The admin link should appear in the header. | |



I logged in with an admin account and the admin link appeared in the navigation bar, therefore the test has passed.

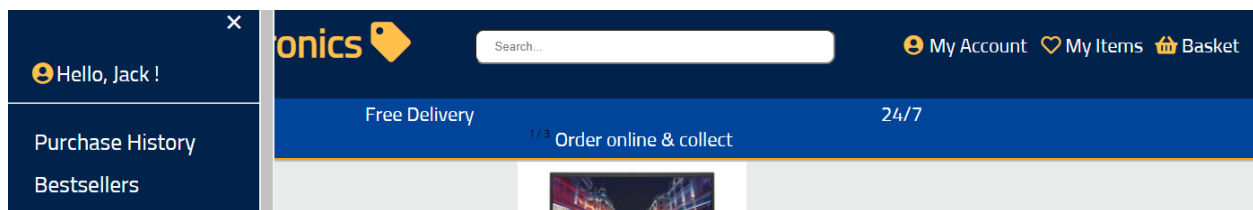
33.2

Links - Admin

Login with a user account and check if the admin link appears

Normal

The admin link should not appear in the header.



I logged in with a user account and the admin link did not appear in the navigation bar, and so the test has passed.

34

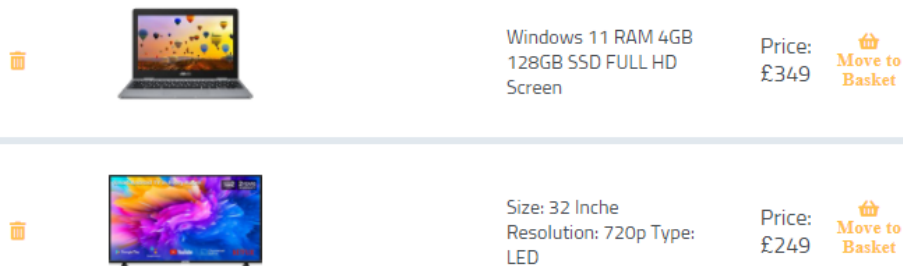
Favourite Items

Adding a product to favourite items.

Normal

The product should be on my favourite items page.

Your saved Items



The products were added successfully to my favourite items page as shown in the screenshot, so the test has passed.

35

Favourite Items

Adding an out of stock product to Favourite items.

Normal

The product gets added to favourite items.

Your saved Items



Blue 256 GB 8GB RAM

Price: £799 [Move to Basket](#)

Although this product has no stock, it was still added to my favourite items page, and so the test has passed.

36

Favourite Items.

Adding items to favourite items while the user is not logged in.

Erroneous

The user should be redirected to the login page.

37

Favourite Items

Remove an item

Normal

The item should get removed from favourite items.

Your saved Items



Windows 11 RAM 4GB
128GB SSD FULL HD
Screen

Price: £349 [Move to Basket](#)

The second item(in test 34) was removed from my favourite items page, as shown above, therefore the test has passed.

38

Admin - Edit Items

Edit the name of a product.

Normal

The name of the product should be updated in the products table.

39

Admin - Edit Items

Increase the price of a product.

Normal

The price of the product should be updated in the products table.

40

Admin - Edit Items





Set a discount on a product.

Normal

The system must calculate the discount and decrease the price, and the discount

| | | | | | |
|----|---|--|---------|--|--|
| | | | | percentage should appear next to the price on the product page. | |
| 41 | Admin - Edit Items | Edit the description of a product and has to be between 50 - 500 words | Normal | The description of the product should be updated in the products table. | |
| 42 | Admin - Edit Items | Edit the description of a product and make it less than 50 words. | Extreme | The user should receive an error message informing them the minimum amount of words is 50. | |
| 43 | Admin - Edit Items | Edit the description of a product and make it more than 500 words. | Extreme | The user should receive an error message informing them the maximum amount of words is 500. | |
| 44 | Admin - Edit Items | Edit the image of a product. | Normal | The image of the product should be updated in the products table. | |
| 45 | Discounts | Set a buy 1 get 1 free offer on a product. | Normal | If the user gets 2 of that product, then he/she must only be charged for one of them and the subtotal must appear in the basket. | |
| 46 | Discounts | Use a promotion code that exists in the database. | Normal | The promotion code must be fetched from the database and must be applied and the price should be updated. | |
| | <div><div><div>Items in your Basket</div><div><div></div><div><div>Size: 32 Inche Resolution: 720p Type: LED</div><div>Quantity 2</div><div>Price: Total: £249 £498</div></div></div><div><div></div><div><div>Windows 11 RAM 4GB 128GB SSD FULL HD Screen</div><div>Quantity 3</div><div>Price: Total: £349 £1047</div></div></div></div><div><div>Total</div><div><div>Sub-Total (ex VAT):£1,545.00</div><div>VAT (20%):£309.00</div><div>Total:£1,854.00</div><div>Discount Code: WELCOME21Apply</div><div>Check Out</div></div></div></div> | | | | |

Items in your Basket

| | | | | |
|---|---|--|--|-----------------------------|
|  |  | Size: 32 Inche Resolution: 720p Type: LED | Quantity <input type="text" value="2"/> | Price: £249 Total: £498 |
|  |  | Windows 11 RAM 4GB 128GB SSD FULL HD Screen | Quantity <input type="text" value="3"/> | Price: £349 Total: £1047 |

Total

| | |
|---------------------|-----------|
| Sub-Total (ex VAT): | £1,545.00 |
| VAT (20%): | £309.00 |
| Discount Amount: | £463.50 |
| Total: | £1,390.50 |

Check Out

As shown in the screenshots, after entering the code WELCOME21, a discount of 25% was applied, the discount amount was displayed as well as the total price was updated. So, the test has passed.

47

Discounts

Use a promotion code that does not exist in the database.

Erroneous

The user must receive an error message saying the code is invalid/unavailable.

The user received a message saying the discount is unavailable.

Total

| | |
|---------------------|---------|
| Sub-Total (ex VAT): | £598.00 |
| VAT (20%): | £119.60 |
| Total: | £717.60 |

Discount Code: WELCOME22

Apply

Check Out

Discount unavailable

48





Basket

Add an item to the basket and check the total price.

Normal

The VAT of 20% must be added to the price of the product and the total price should appear at the bottom of the basket.

Items in your Basket

| | | | | |
|---|---|--|--|----------------------------|
|  |  | Windows 11 RAM 4GB 128GB SSD FULL HD Screen | Quantity <input type="text" value="1"/> | Price: Total: £349 £349 |
|  |  | Size: 32 Inche Resolution: 720p Type: LED | Quantity <input type="text" value="1"/> | Price: Total: £249 £249 |

Total

| | |
|---------------------|---------|
| Sub-Total (ex VAT): | £598.00 |
| VAT (20%): | £119.60 |
| Total: | £717.60 |

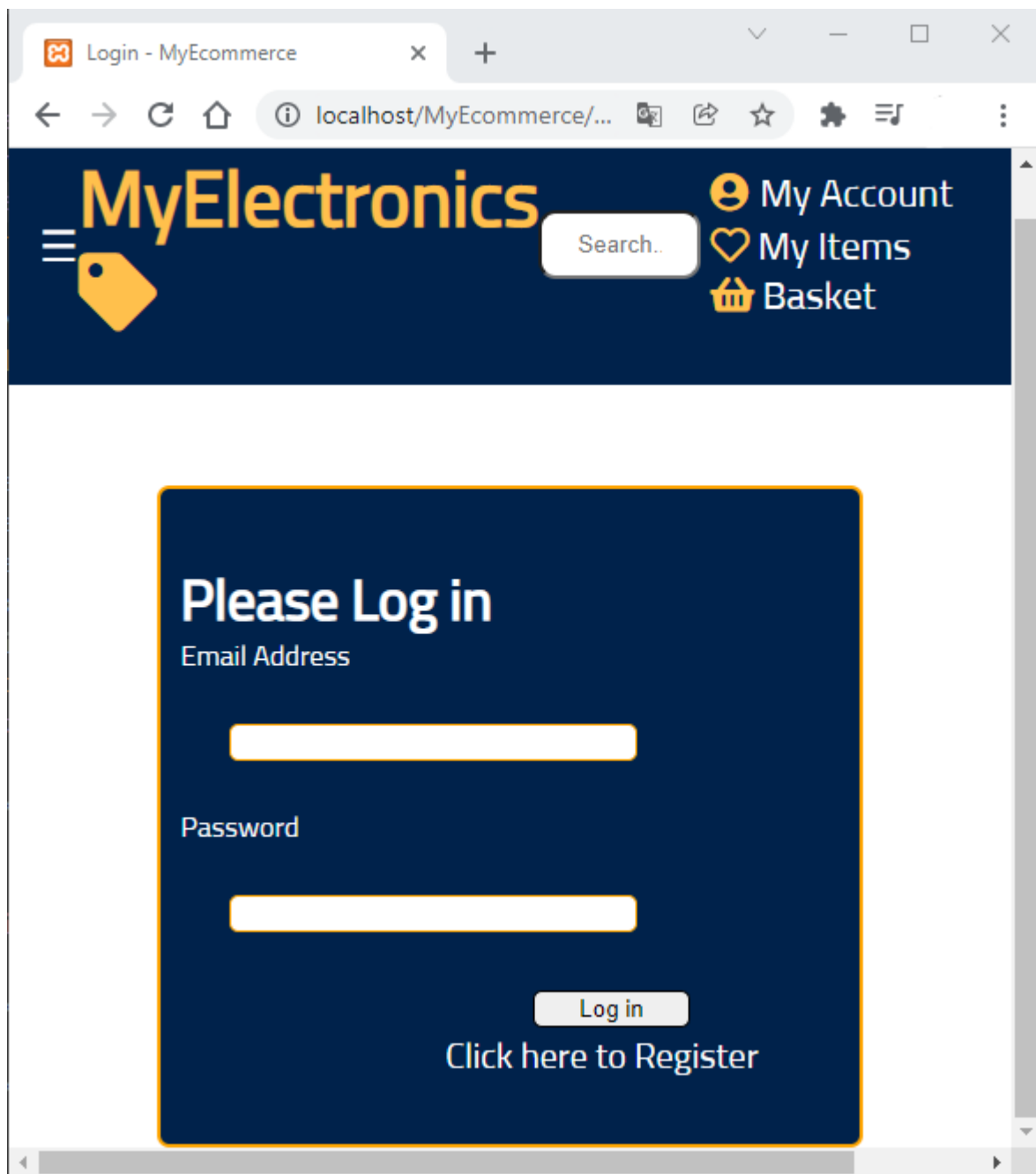
Discount Code: [Apply](#)

[Check Out](#)

The screenshots show that a VAT of 20% was calculated and displayed under the sub-total price.

| | | | | |
|----|------------------------|---|-----------|---|
| 49 | Admin - Adding items | Add a new item to the store with the correct name and description. | Normal | The product should be added to the database. |
| 50 | Adding items | Search for the new item in the correct category | Normal | The user should be able to see the product in the results page. |
| 51 | Adding items | Search for the new item in the incorrect category | Erroneous | The user should get an error message informing them the product is not found. |
| 52 | Admin - Adding items | Add a new item to the store with an incorrect name and description. | Erroneous | The product should not be added to the database and the admin should receive an error. |
| 53 | Admin - Deleting items | Search for a product that exists in the database and delete it. | Normal | The product should be deleted from the database. |
| 54 | Admin - Deleting items | Search for a product that doesn't exist in the database and delete it. | Erroneous | The admin should get an error saying the product is not found. |
| 55 | Deleting items | Search for the deleted item without specifying the category. | Normal | The user should get a message saying the product is no longer available. |
| 56 | Sales report | Add to the orders table and check the sales report to see the number of orders that day, most purchased product/categories and revenue. | Normal | The number of orders that day, most purchased product/categories and revenue must be updated. |
| 57 | Sales report | Click revenue in detail. | Normal | The admin should be able to see the quantity sold and revenue for each product separately. |

| | | | | | |
|----|--|--|--------|---|--|
| 58 | Sales report | Go to previous months to see sales reports | Normal | The user should be able to select a month in the last 12 months and see the report | |
| 59 | Welcome Page | Test the page in a different browser. | Normal | The page should appear correctly. | |
| | The page appears correctly in the Firefox browser. | | | | |
| 60 | Welcome Page | Test the page on a mobile phone | Normal | The page should appear correctly. | |
| 61 | Welcome Page | Change the size of the Login page on a computer. | Normal | The elements of the page should change sizes based on the change in the size of the page. | |



The elements changed position to fit on the page, therefore, the test has passed.

62

Links

Login with a user account and go into the admin page by typing the link manually.

Extreme

The user should be redirected to the welcome page.

The error was in the function `isAdmin()` in the `utilities.php` file, this is because the function redirected the user to the login page if the user wasn't logged in which is fine, however, it treated the logged-in user with the same thing which resulted in a failed test. I fixed this by creating an else if statement that redirects the logged-in user to the welcome page.






Before:

```
function isAdmin()
{
    if (!isset($_SESSION["myUser"]) || $_SESSION["myUser"]->getUserType()
!= 0) {
        header("Location: index.php"); //Login Page
        exit;
    }
}
```

After:

```
function isAdmin()
{
    if (!isset($_SESSION["myUser"])) {
        header("Location: index.php"); //Login Page
        exit;
    } else if ($_SESSION["myUser"]->getUserType() != 0) {
        header("Location: Welcome.php");
        exit;
    }
}
```

| | | | | | |
|----|--|---|-----------|--|--|
| 63 | Links | Without logging in with any account, access the admin page by typing the link manually. | Extreme | The user should be redirected to the index page to log in. | |
| | The user was redirected to the index page to log in. | | | | |
| 64 | Browse | Search for a product and see the images. | Normal | The user should be able to see all pictures clearly and swap between them. | |
| 65 | Browse | Check the alt(alternative) text of an image. | Normal | If the image is not loading then the user should be able to see text describing the image. | |
| 66 | Browse | Enlarge the image of a product. | Normal | The user should be able to zoom in/out. | |
| 67 | Basket | Add a product to the basket and see the image. | Normal | The user should see one picture of the product with a smaller size. | |
| 68 | Browse | Search for a product and filter the results based on price. | Normal | The user should see all the products that are in the price range specified by the user. | |
| 69 | Browse | Search for a product and filter the results based on price, and | Erroneous | The user should receive an error message saying that no | |

| | | | | | |
|---|-----------------|--|--------|--|--|
| | | make the range too little. | | product is found in that range. | |
| 70 | Browse | Search for a product and filter the results based on colours, sizes or brands. | Normal | The user should be able to see all the filtered results. | |
| 71 | Browse | Search for a product and filter the results based on colours. | Normal | The user should be able to see all the filtered results. | |
| 72 | Browse | Search for a product and filter the results based on brands. | Normal | The user should be able to see all the filtered results. | |
| 73 | Favourite Items | Move an item from favourite items to the basket | Normal | The item should be added to the basket | |
| <div> <div> <h3>Your saved Items</h3> <div>   <div> Windows 11 RAM 4GB 128GB SSD FULL HD Screen </div> <div> Price: £349 <div>  Move to Basket </div> </div> </div> </div> <div> <h3>Items in your Basket</h3> <div>   <div> Windows 11 RAM 4GB 128GB SSD FULL HD Screen </div> <div> Quantity 1 </div> <div> Price: £349 Total: £349 </div> </div> </div> <p>The screenshot shows that this item was initially added to the My Items section, then was moved to the basket by clicking the button Move to Basket, which means the test has passed.</p> </div> | | | | | |
| 74 | Sidebar Nav | Expand the sidebar navigation | Normal | The sidebar nav should be animated and expanded. | |
| 75 | Sidebar Nav | Close the sidebar navigation | Normal | The sidebar nav should be animated and closed. | |
| 75.1 | Sidebar Nav | Expand the sidebar navigation while logged in. | Normal | The sidebar nav should be animated and expanded and it should print the name of the user at the top. | |

| | | | | | |
|------|----------------|--|--------|--|--|
| 75.2 | Sidebar Nav | Expand the sidebar navigation while not logged in. | Normal | The sidebar nav should be animated and expanded and it should print "Sign in" at the top. | |
| 76 | Welcome page | From another page, go to the welcome page by clicking on the logo in the navigation bar. | Normal | The user should be redirected to the welcome page. | |
| 77 | Navigation Bar | Hover over "My Account" in the navbar while not logged in. | Normal | A dropdown menu should appear giving the user the option to log in. | |
| 78 | Navigation Bar | Hover over "My Account" in the navbar while logged in. | Normal | A dropdown menu should appear giving the user the option to either go to purchase history or to log out. | |
| 79 | Navigation | Before logging in, in the index page and in the login form click on the "Click here to register" link. | Normal | The user should be redirected to the registration page to create an account. | |