

Unit and Integration Testing

Programming Pioneers: Easy Plots

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Test Sign Up

- To test the 'Sign Up' process:
 1. Navigate to the 'Sign Up' page within the web application.
 2. Test the 'Enter Username' requirements by leaving it blank and clicking 'Submit'. A message should appear at the top of the webpage that says 'Username must be at least 1 character long.' Next, enter at least a 1 character long username and click 'submit'. You could no longer receive the username message.
 3. Test the 'Email Address' by entering a username and an email missing either '@' or '.' or less than a total of 6 characters. A corresponding message should appear stating these requirements. Entering an email address that meets these requirements would produce no errors.
 4. Test the 'Password' by entering a proper username, a proper email, and a password less than 7 characters. A message should appear that the password needs to be at least 7 characters. Next, enter a password that meets this requirement and no error message should occur.
 5. Test the 'Confirm Password' by entering proper values in the previous fields then entering a password in the 'Confirm Password' field that doesn't match the previously entered password. A message stating the passwords must match should appear. Enter a password that matches the previously entered password along with proper values in the other fields and you should be logged into the app and redirected to the UploadCSV page.

Test Login

- To test the 'Login' process:
 1. Enter a valid email and password that you have previously signed up with. If the email and password have been previously signed up with, you should be logged in and redirected to the UploadCSV page when you press 'Submit'. Otherwise the app should not log you in.

Test Logout

- To test the 'Logout' process:
 1. Once logged in, click the 'Logout' button in the navigation bar and you should be logged out and redirected to the 'Login' page. Any other result is a failure.

Test Upload .csv

- To test the 'UploadCSV' process:
 1. Once logged in, navigate to the 'UploadCSV' page.
 2. Click the 'Choose File' button. Your file manager should appear to navigate to your .csv of voice on your local drive. Select the local drive and the name of the .csv should appear next to the 'Choose File button'. Finally, click the 'Upload' button and you should be redirected to the 'EasyPlot' page. Any deviation from this process is a failure of the test.
 3. When the 'ChooseData' page loads, the name of your csv should appear as an option in the drop down menu for "Select Dataset"

Test Choose Data set

- To test the choose data set feature:
 1. When on the 'ChooseData' page, you should be able to select from the data sets you have uploaded using the 'Select Dataset' menu. If any datasets that you have uploaded are not present, it is a test failure.
 2. You should be able to select 'Use' or 'Delete' for the dataset. If you select 'Delete' option, then when the form is submitted the dataset should no longer appear in the 'Select Dataset' menu.
 3. If you select a dataset and select the 'Use' option, then when the form is submitted you should be redirected to the 'EasyPlot' page and all the corresponding selection fields should have drop down menus populated with variables from your dataset.
 4. If these menus are not populated correctly, it is a test failure.

Test Plot Data

- To test the 'EasyPlot' page where you will build the plot:
 1. Once logged in, navigate to the 'EasyPlot' page.
 2. Select desired variables from drop down menus on 'EasyPlot' page.
 3. Enter the plot title in the main title text box. This can be any string of length less than 100 characters.
 4. Enter x-axis and y-axis titles in the corresponding text boxes with string values less than 100 characters.

5. Once the desired values are entered, click the 'Submit' button and a plot below the 'Submit' button should generate with the data entered in the corresponding parameters of the plots.

6. Any result other than the one described in step 5 is a failure of the test.

Test Statistical Analysis

- To test the statistical analysis feature:
 1. Select the desired statistical method from the drop down menu on the 'EasyPlot' page.
 2. If selecting ttest or Wilcoxon test, also select the variable you would like to compare using drop down menus under the 'If you selected ttest or wilcoxon test, which two would you like to compare' label.
 3. When the form is submitted the result of your statistical analysis should appear at the bottom of the webpage or you should receive a red message letting you know what was entered incorrectly.
 4. If the webpage crashes or if any result other than what is described in step 3, it is a test failure.

Test Web Page Integration

- To test the integration of the web pages:
 1. If not logged in, click between the 'Login' and 'Sign Up' tabs in the navigation bar. You should be directed between the corresponding pages accordingly. Any other result is a test failure.
 2. If logged in, click between the 'EasyPlot', 'UploadCSV', 'ChooseData', and 'Logout' tabs. You should be directed between the corresponding pages accordingly. Any other result is a test failure.