Plotter – Test Case Specification

**Team 4**

**SER 216**

TEST CASE: Integral panel

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Open Integral Panel through the Integral button to the right or through the “Do” menu | Integral Box Should Appear |
| 2 | Enter x1 and x2 | Values should appear accurately within the box |
| 3 | Select Gauss and hit Recalculate | Correct result in “Res” |
| 4 | Select Trapezium and hit Recalculate | Correct result in “Res” |
| 5 | Select Simpson and hit Recalculate | Correct result in “Res” |
| 6 | Run an MDX query to get the average Response time for the Cluster for that day. | The result of the MDX query should match the average response time calculated from the SQL query results. |

TEST CASE: DF

Method of Testing: Black Box Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Repeat three times with varying functions | Normal function should appear on graph |
| 2 | Hit Show DF tab on the right side or use the “DO” menu | Proper differential function should appear on graph |
| 3 | Hit No DF tab on the right side or through the “DO” menu | Function should disappear from graph |

TEST CASE: Advanced Calculator Object (Integral and DF)

Method of Testing: Automated WhiteBox via Eclipse

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Run JUnit tests | All cases should pass |
| 2 | Run EclEmma | EclEmma results should show 85% of cases |

TEST CASE: Color panel - Background

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to BACKGROUND\_COLOR | Choose color panel should appear |
| 3 | Select a shade of green and click ok | Choose color panel disappears, the box next to background color now shows the selected shade of green |
| 4 | Click Save | The Color Panel disappears, the background color of the plotter should now be the selected shade of green |

TEST CASE: Color panel - Background

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to PANEL\_COLOR | Choose color panel should appear |
| 3 | Select a shade of blue and click ok | Choose color panel disappears, the box next to panel color now shows the selected shade of blue |
| 4 | Click Save | The Color Panel disappears, the side panel color of the plotter should now be the selected shade of blue |

TEST CASE: Color panel - Line

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to LINE\_COLOR | Choose color panel should appear |
| 3 | Select a shade of red and click ok | Choose color panel disappears, the box next to line color now shows the selected shade of red |
| 4 | Click Save | The Color Panel disappears, the color of the main line should now be the selected shade of red |

TEST CASE: Color panel – Line2

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to LINE\_2\_COLOR | Choose color panel should appear |
| 3 | Select a shade of purple and click ok | Choose color panel disappears, the box next to line 2 color now shows the selected shade of purple |
| 4 | Click Save | The Color Panel disappears |
| 5 | Enter sin(x) in the displayed function input and click draw | A sin(x) line is displayed |
| 6 | Selected the DF button on the right | The DF line should show with the selected shade of purple |

TEST CASE: Color panel – Axis

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to AXIS\_COLOR | Choose color panel should appear |
| 3 | Select a shade of yellow and click ok | Choose color panel disappears, the box next to panel color now shows the selected shade of yellow |
| 4 | Click Save | The Color Panel disappears, the color of the axis lines should now be the selected shade of yellow |

TEST CASE: Color panel – Line 3D

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Color menu at the top of the application, select Change Colors | Color Panel window should appear |
| 2 | Click the > button next to LINE\_3D\_COLOR | Choose color panel should appear |
| 3 | Select a shade of blue and click ok | Choose color panel disappears, the box next to line 3D color now shows the selected shade of blue |
| 4 | Click Save | The Color Panel disappears |
| 5 | Click the Visualization menu at the top and select Cartesian 3D | The Cartesian 3D view is shown with the 3D line as the selected shade of blue |

TEST CASE: Visualization menu

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Selected the Visualization menu at the top of the application, select Cartesian 2D | The application should show a two-dimensional plotter with a y=sin(x) function as the default graph (this is a wave graph) |
| 2 | Selected the Visualization menu again and select Polar 2D | The application should show a two-dimensional plotter with a r=2 function as the default graph (this is a circular graph) |
| 3 | Selected the Visualization menu again and select Cartesian 3D | The application should show a three-dimensional plotter with three axes (x, y, and z) and z = sin(x+y) as the default graph |

TEST CASE: Draw (Display function)

Method of testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXCUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Point the mouse to the function text field at the top of the application | The area should be typeable field |
| 2 | Enter the function that as needed to be drown | Function should stay in the text field |
| 3 | Click the tap “Do” and click on the first menu called “Draw” | “Do” tap should be opened and “Draw” option be seen |
| 4 | Function is being drown | Function should be drown on the X, Y axis |

TEST CASE: Draw (Button)

Method of testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXCUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Point the mouse to the function text field at the top of the application and enter a function | The area should allow user to type |
| 2 | Click on the “Draw” button in the bottom left of the application | Function should be drown on the X, Y axis |

TEST CASE: Save

Method of testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXCUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Draw any function | Function should be drown on the X, Y axis |
| 2 | Click on the “save” tap | Save menu should open |
| 3 | Click on the “save image” menu | “open” window should open |
| 4 | Click on the “Look in” and select a destination | “Look in” should slide down and computer drives should appear |
| 5 | Choose a name for the image and add .jpg to the end of the name and finally click “open” button | Image should be found in the destination and be visible if it is opened |

TEST CASE: Renderer – Linear Functions

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Enter the linear function x in the Display function field and click Draw button. | Line should appear originating at 0 and intersect with point (1,1) with a slope of 1. |
| 2 | Enter the linear function x/2 + 1 in the Display function field and click Draw Button | Line should appear originating at 1 and intersecting with point (2,1.5) with a slope of ½. |
| 3 | Enter the function 5 + x in the Display function field and click Draw button. | Line originates from 5 and intersects point (1,6) with a slope of 1. |

TEST CASE: Renderer – Quadratic Functions

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Enter the quadratic function x^2 in the Display field and click Draw button. | Curved line originates from the point of origin and intersects with point (1,1) and approaches infinity. |
| 2 | Enter the quadratic function x^2 + 5 in the Display field and click Draw Button. | Curved line originates from 5 and intersects with point (1,6) and approaches infinity. |
| 3 | Enter the quadratic function 20\*x^2 + x + 1 in the Display field and click Draw button. | Curved line originates from 1 and intersects with point (.5,6) with a slope of 20/1. |

TEST CASE: Renderer – Polynomial Functions

Method of Testing: Manual

|  |  |  |
| --- | --- | --- |
| **S.N** | **EXECUTION STEPS** | **EXPECTED RESULTS** |
| 1 | Enter the polynomial 5xy^2 – 3x + 5y^3 – 3 in the Display field and click Draw button. | Line originating at -3 and intersects with point (1,-6) with a slope of -1.5/1. |
| 2 | Enter polynomial x^3 in the Display function field and click Draw button. | A curved line should appear with a change of concavity at the origin and 1 curve intersecting the point (1,1) and the other curve intersecting the point (-1,-1).. |