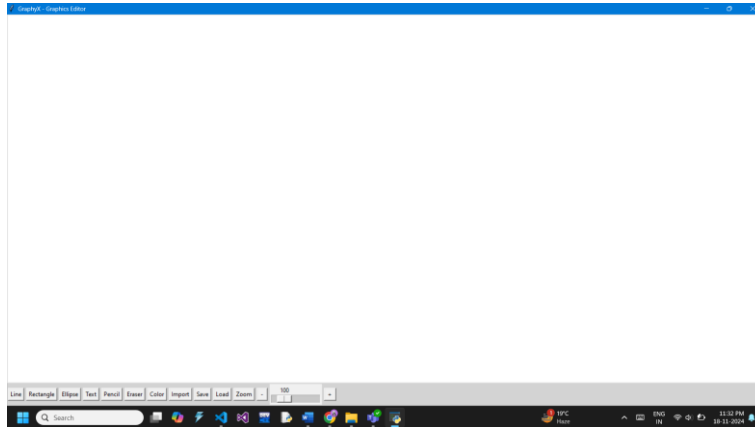# Test Cases for the Graphics Editor application

- **Launch Application**
  - Test Case: Verify the application launches without errors.
  - Steps:
    - Run the Python script.
    - Check if the main window appears.
  - Expected Result: The application window opens successfully.
  - Failure Status: If the application crashes or fails to launch, note the error logs.
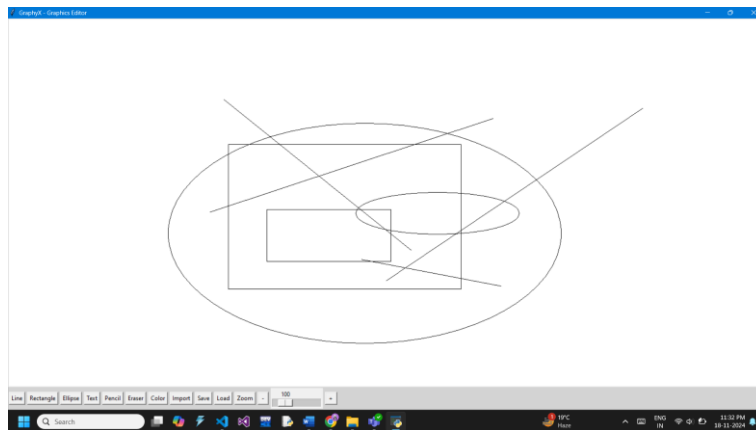

  - Test Result: Passed

- **Tool Selection**
  - Test Case: Verify that the tools (Line, Rectangle, Ellipse, etc.) can be selected.
  - Steps:
    - Click on each tool in the toolbar.
    - Check if the tool activates.
  - Expected Result: The cursor or behaviour changes appropriately for the selected tool.
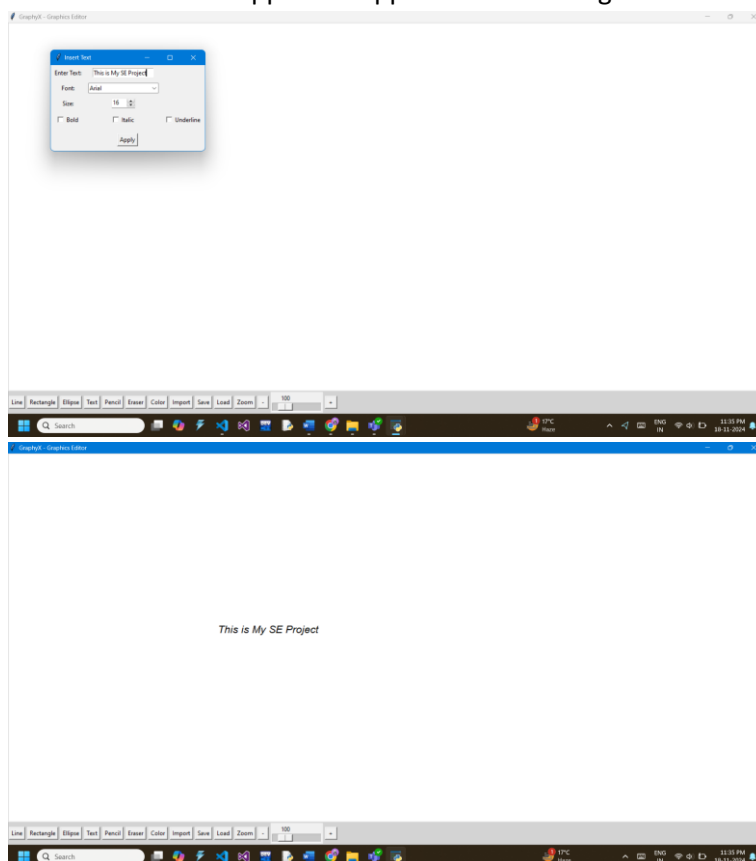 - Test Result: Passed

- **Drawing Tools**
  - Test Case: Test line, rectangle, and ellipse drawing.
  - Steps:
    - Select each tool.
    - Drag the mouse on the canvas to draw the corresponding shape.
  - Expected Result: The drawn shapes should match the selected tool.
  - Failure: If incorrect shapes appear or if they aren't drawn.

- o Test Result: Passed; We are able to successfully draw an Ellipse, Rectangle or a Line.

- **Text Tool**
  - o Test Case: Verify the text tool functionality.
  - o Steps:
    - Select the text tool.
    - Click on the canvas, input text in the dialog, and press Apply.
  - o Expected Result: The entered text appears on the canvas.
  - o Failure: Text does not appear or appears in the wrong format.

  - o Test Result: Passed; We are able to insert a Text of our choice. Font, Size and other features can be altered by the user.

- **Colour Picker**
  - Test Case: Test the colour picker.
  - Steps:
    - Click on the "Colour" button.
    - Select a colour and draw a shape.
  - Expected Result: The shape is drawn in the selected colour.
  - Failure: The default colour or a different colour is used
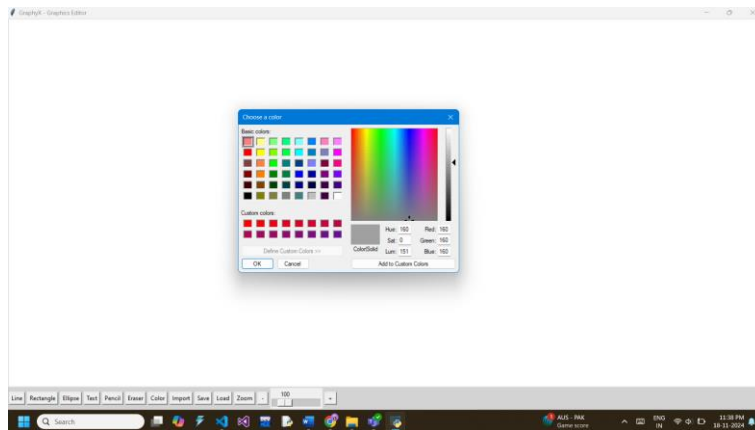
  - Test Result: Passed; A colour picker appears and we are able to draw shapes and write text of picked colour.

- **Pencil and Eraser**
  - Test Case: Verify pencil and eraser functionality.
  - Steps:
    - Select the pencil and draw freely.
    - Use the eraser to remove parts of the drawing.
  - Expected Result: Pencil draws freely; the eraser removes content.
 - Failure: Either tool does not behave as expected.
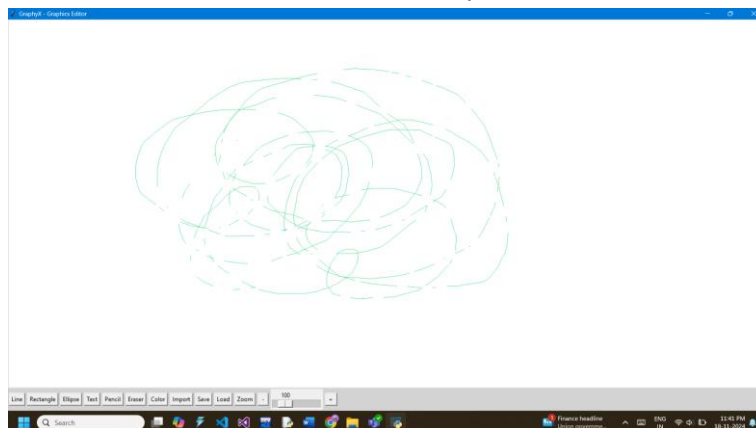
  - Test Result: Passed; We are able to free-hand draw using the Pencil tool and erase contents drawn on the canvas using the Eraser tool.

- **Import Image**
 - Test Case: Test importing an image.

- o Steps:
  - Click "Import" and select an image file.
  - Check if the image appears on the canvas.
- o Expected Result: The image loads successfully and is visible on the canvas.
- o Failure: Image does not load or crashes the application.
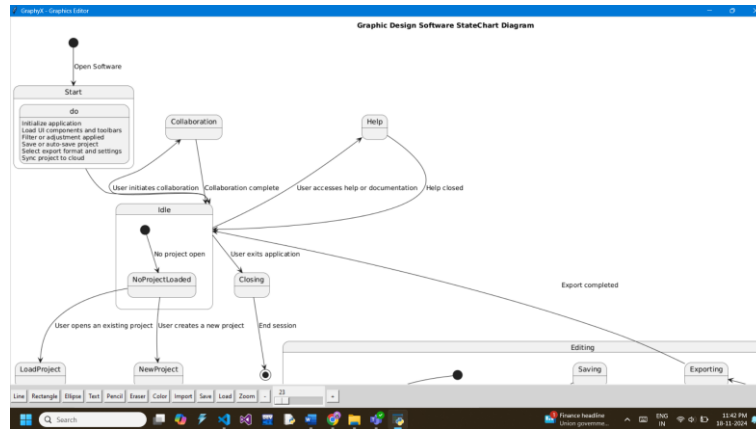
- o Test Result: Passed; We can successfully load a Bitmap image onto the canvas.

- **Save Canvas**
  - o Test Case: Test saving the canvas to a file.
  - o Steps:
    - Draw on the canvas.
    - Click "Save" and specify a file name.
    - Check if the file is saved and opens correctly.
  - o Expected Result: The saved file matches the canvas content.
  - o Failure: File does not save or content is incorrect.
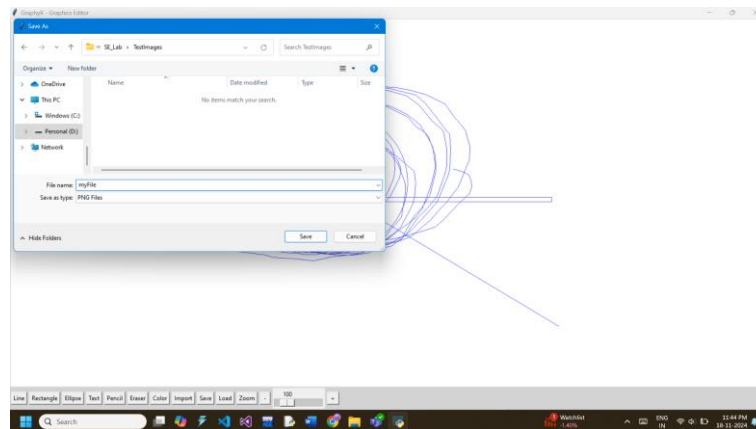
  - o Test Result: Partially Passed; We are able to save the current Drawing as a .ps file but not as a .png or .jpg file like we would have liked.

- **Zoom In and Out**
  - o Test Case: Verify zoom functionality.
  - o Steps:
    - Use the zoom buttons and slider to adjust zoom levels.
    - Check if the canvas content scales correctly.
  - o Expected Result: Content zooms in and out as expected.

- o   Failure: Content does not scale or artifacts appear.
- o   Test Result: Failed; The Zoom-in and Zoom-out Partially works.

- **Further Improvement Scopes**
    - o   The Zooming Feature is to be perfected.
    - o   The Panning Section has to be implemented.
    - o   Each component of our Painting has to be saved with separate Identity Numbers so as to be able to manipulate them after they have been created.
    - o   We should be able to copy shapes into clipboards to be used later.