

Test cases

1. Keyboard input test

a) Valid Input

Description:

- Input a dataset with at least 1000 values randomly distributed between 0 and 1000.
- The input data is within the specified range and follows the expected format.

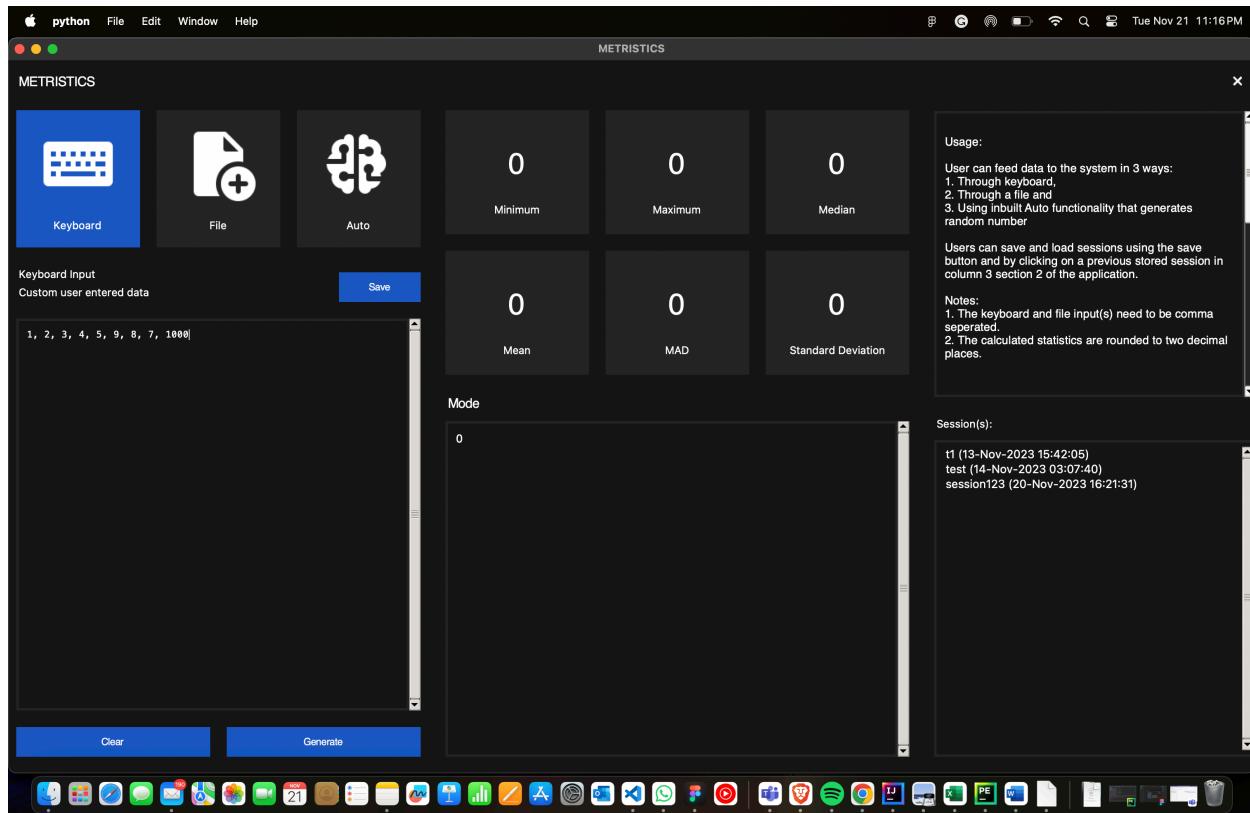
Steps:

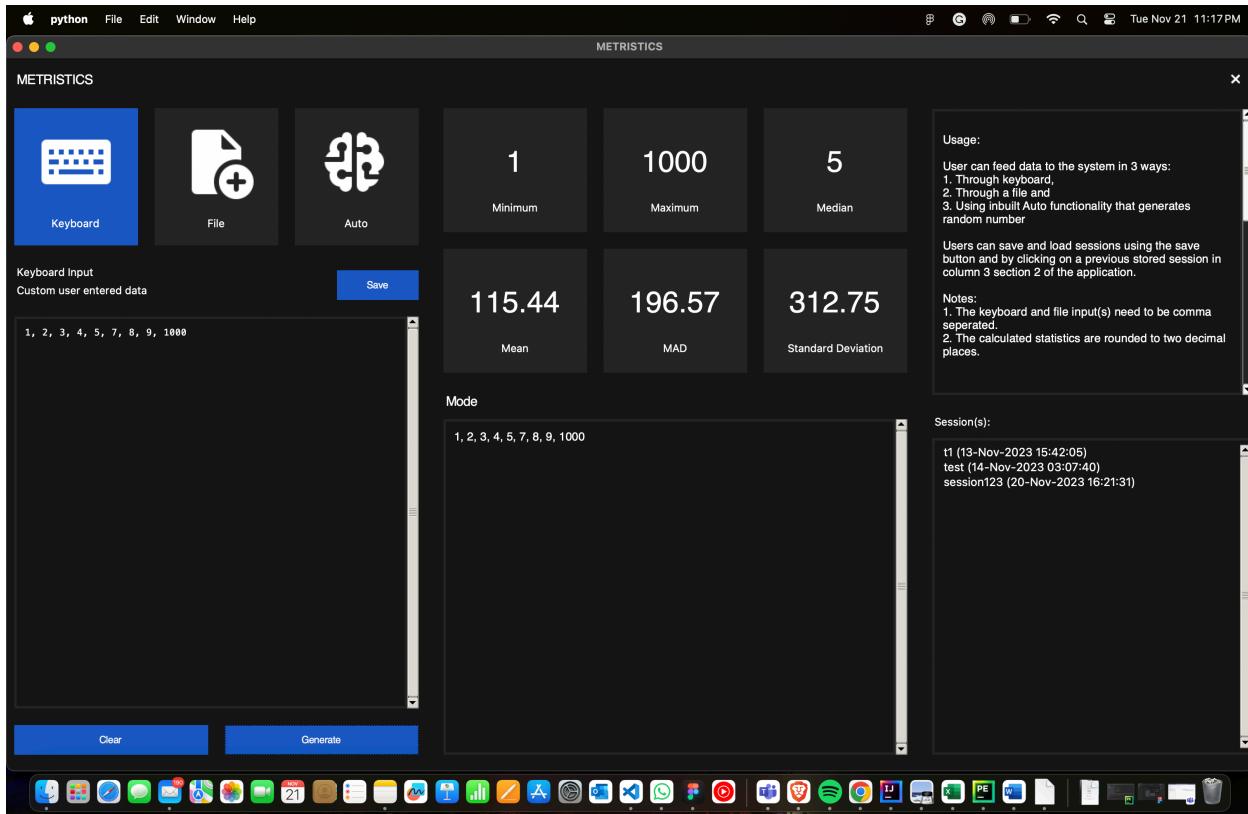
- Input the valid dataset into METRICSTICS.
- Verify that METRICSTICS processes the input without errors.
- Check the output for descriptive statistics such as mean, standard deviation, minimum, maximum, mode, median, and mean absolute deviation.
- Compare the output with manually calculated values or any other tool to ensure accuracy.

Expected Result:

- METRICSTICS processes the valid input and produces accurate descriptive statistics.

Actual Result:





Outcome: Passed

b) Invalid Input

Description:

- Input data that includes invalid values, such as non-numeric characters, empty values, or values outside the specified range.

Steps:

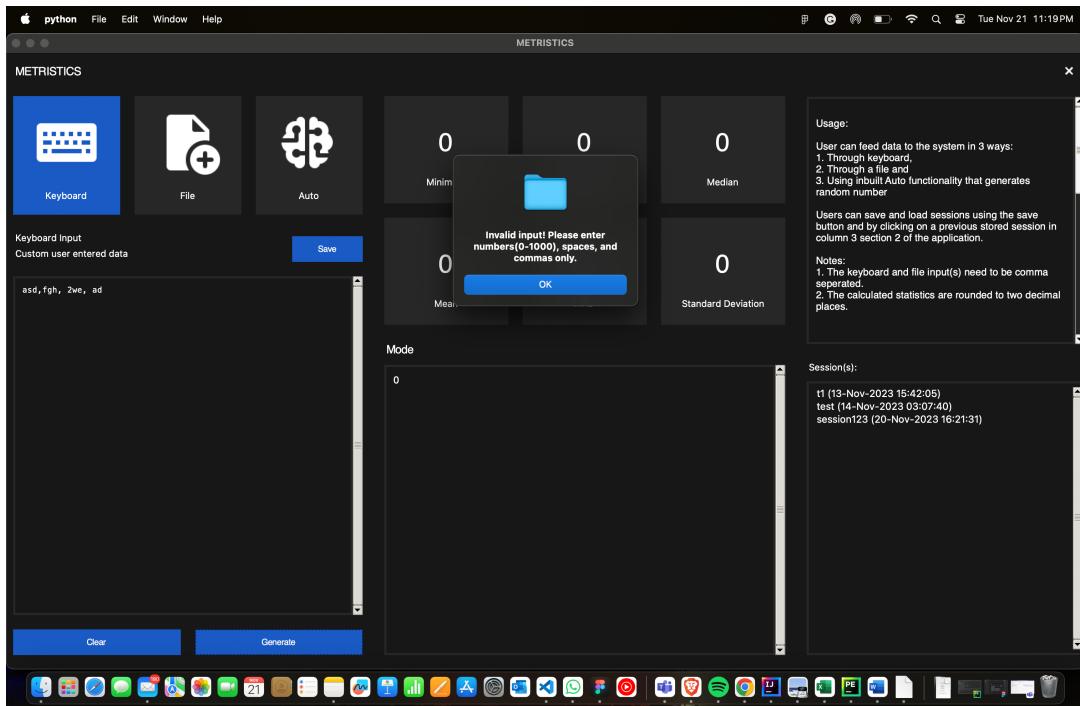
- Input the dataset with invalid values into METRICSTICS.
 - i. String Input
 - ii. Value greater than 1000
 - iii. Space separated i.e. not comma-separated
- Verify how METRICSTICS handles the invalid input.
- Check for error messages or unexpected behaviour.
- Ensure that METRICSTICS provides clear feedback on the nature of the input error.

Expected Result:

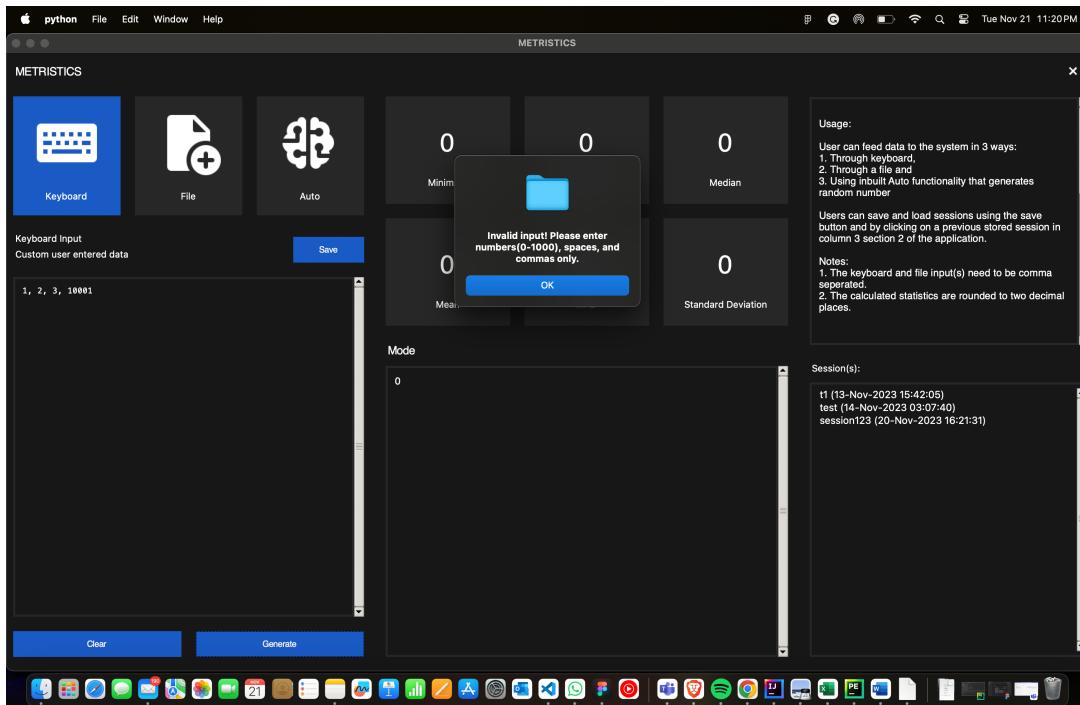
- METRICSTICS handles invalid input gracefully, providing meaningful error messages or feedback.

Actual Result:

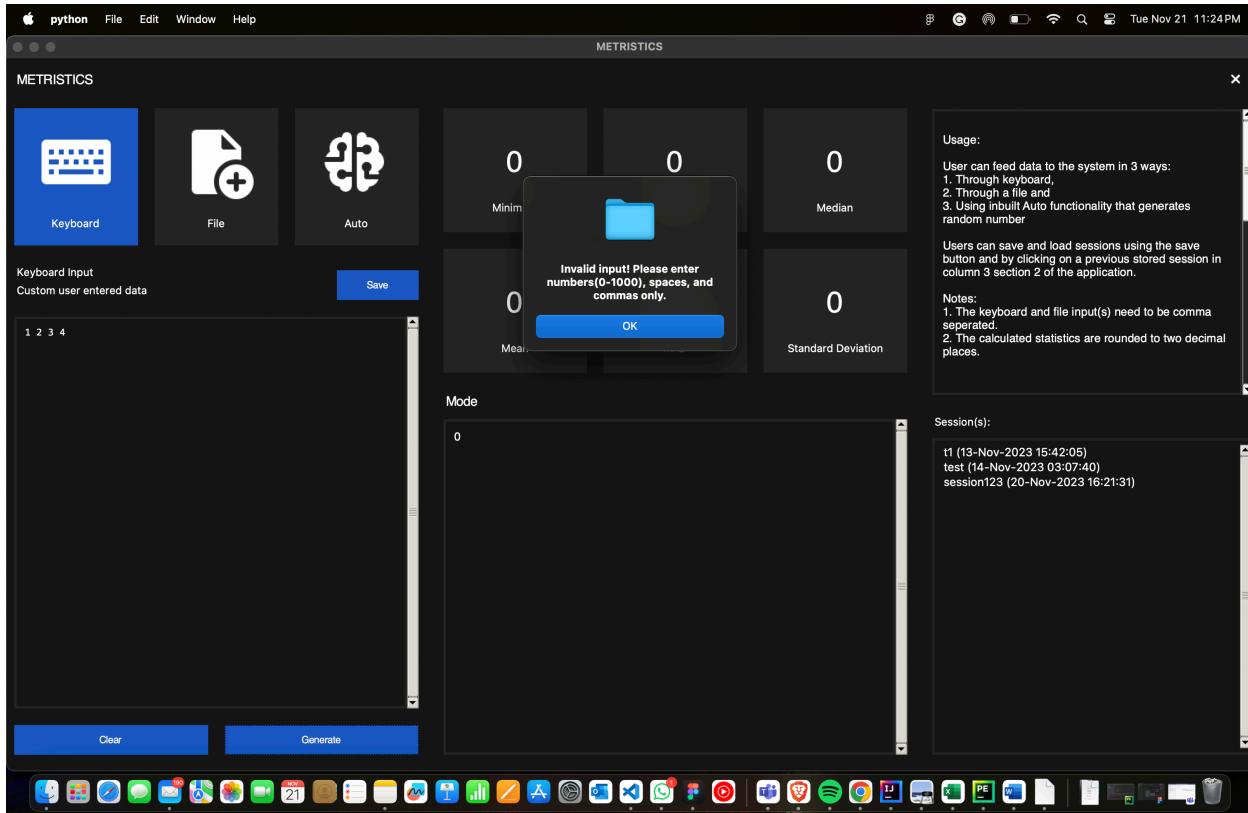
i. String input:



ii. Value greater than 1000



iii. Space separated i.e. not comma-separated



Outcome: Passed

2. File input test

a) Valid File

Description:

- Provide METRICSTICS with the path to a valid file containing numeric data.

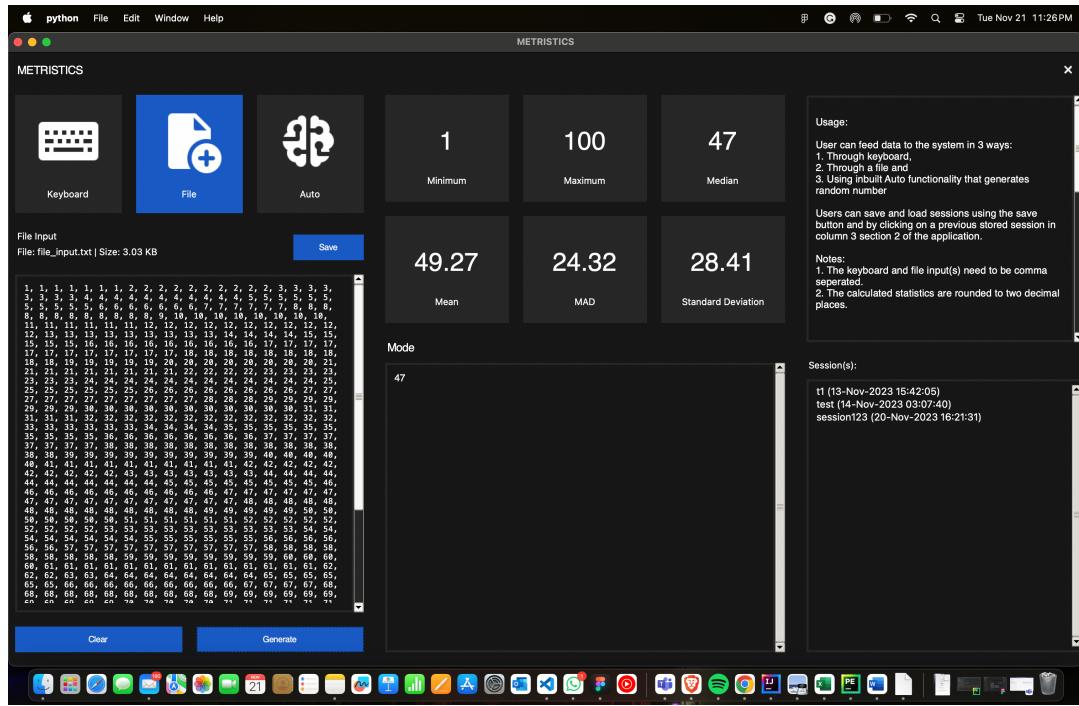
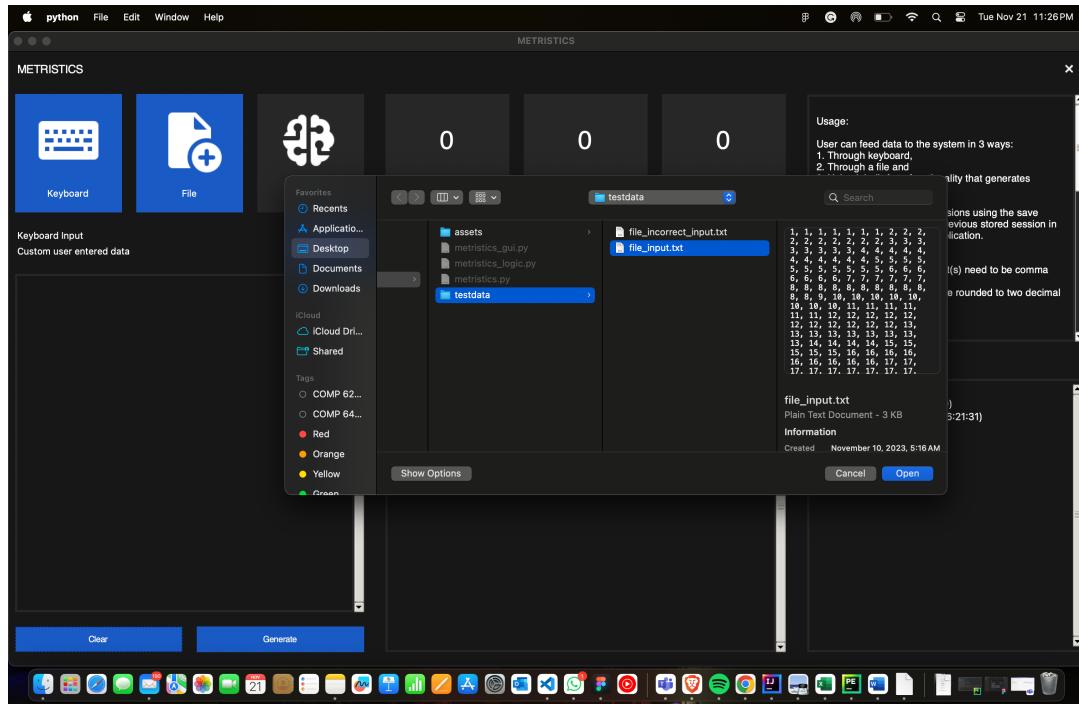
Steps:

- Prepare a file with at least 1000 values, randomly distributed between 0 and 1000.
- Input the valid file path into METRICSTICS.
- Verify that METRICSTICS processes the file without errors.
- Check the output for descriptive statistics such as mean, standard deviation, minimum, maximum, mode, median, and mean absolute deviation.
- Compare the output with manually calculated values or any other tool to ensure accuracy.

Expected Result:

- METRICSTICS successfully reads the valid file and produces accurate descriptive statistics.

Actual Result:



Outcome: Passed

b) Invalid File

Description:

- Provide METRICSTICS with an invalid file path or a file with non-numeric data.

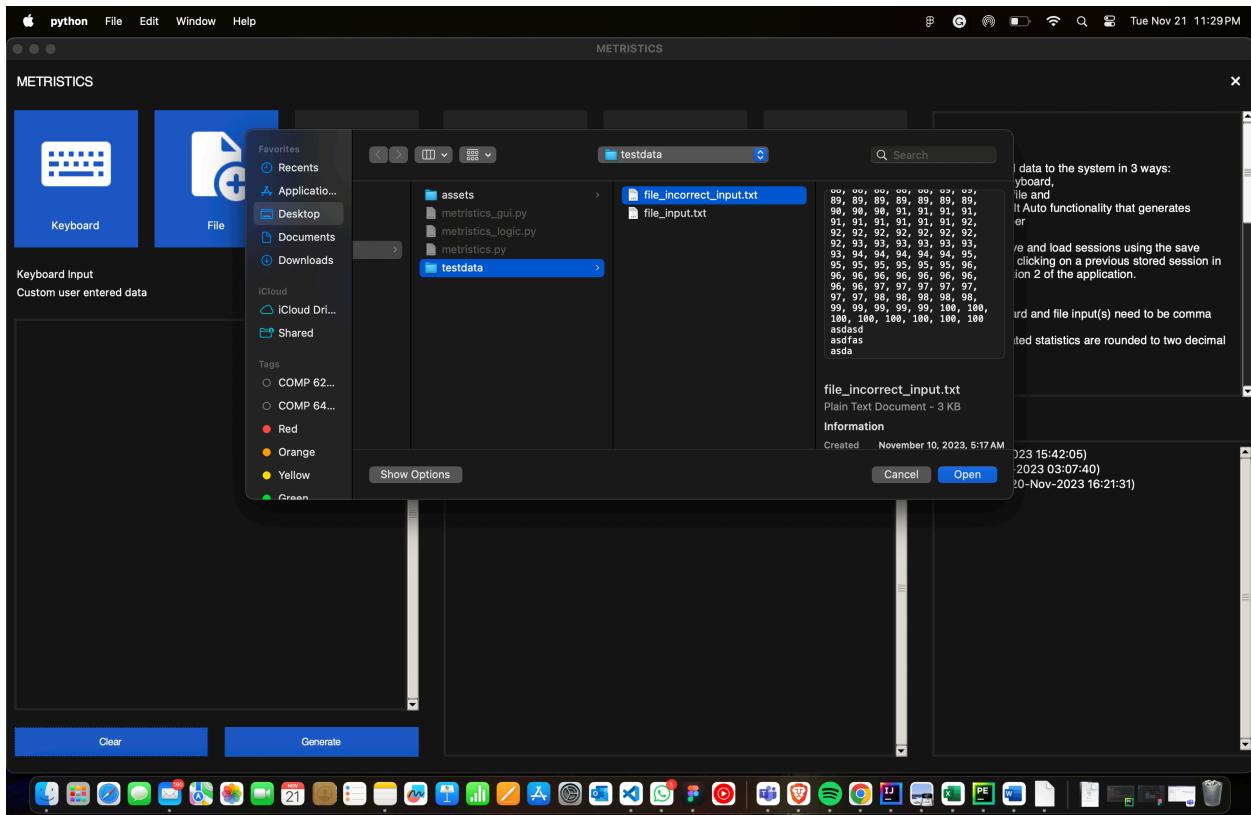
Steps:

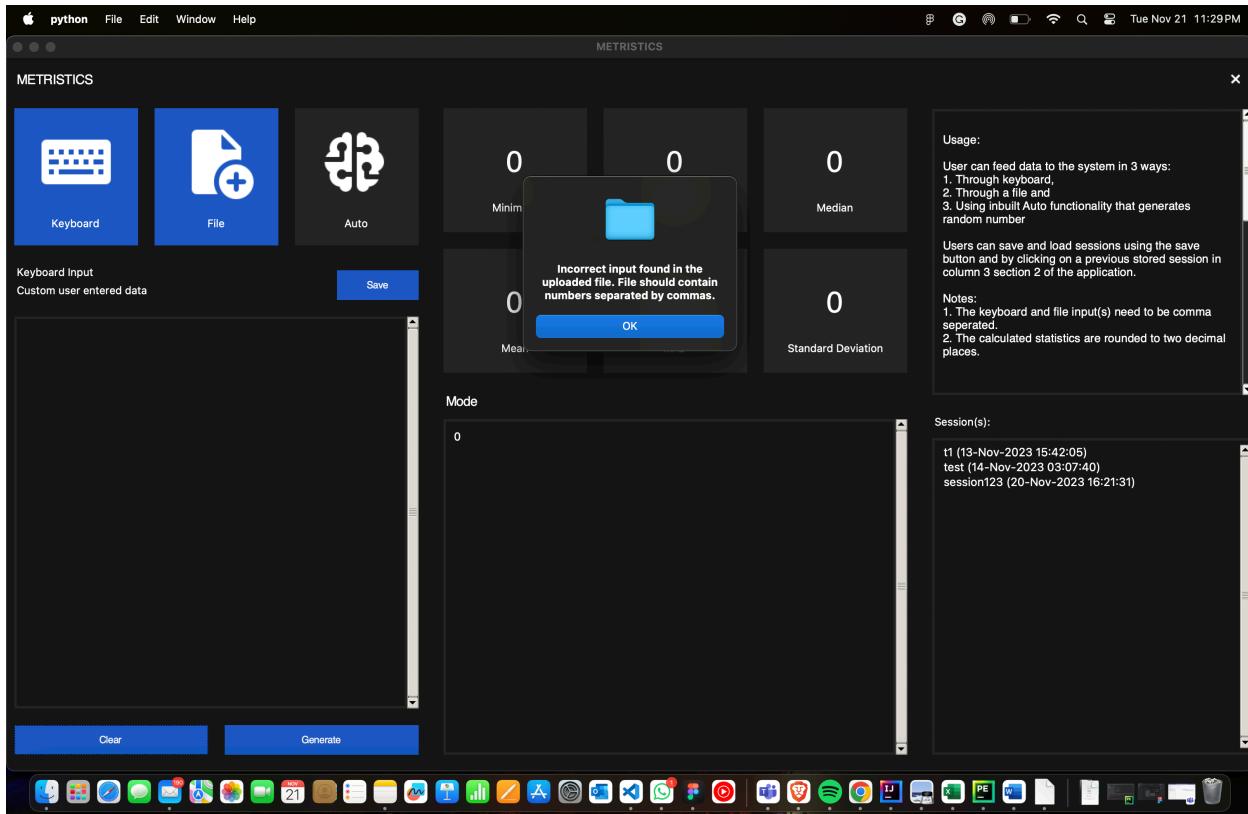
- Input an invalid file path or a file with non-numeric data into METRICSTICS.
 - Verify how METRICSTICS handles the invalid file.
 - Check for error messages or unexpected behavior.
 - Ensure that METRICSTICS provides clear feedback on the nature of the file-related error.

Expected Result:

- METRICSTICS handles invalid files gracefully, providing meaningful error messages or feedback.

Actual Result:





Outcome: Passed

3. Auto-generate test (0 - 10,000)

Description:

- Automatically generate a dataset with at least 1000 values randomly distributed between 0 and 1,000.

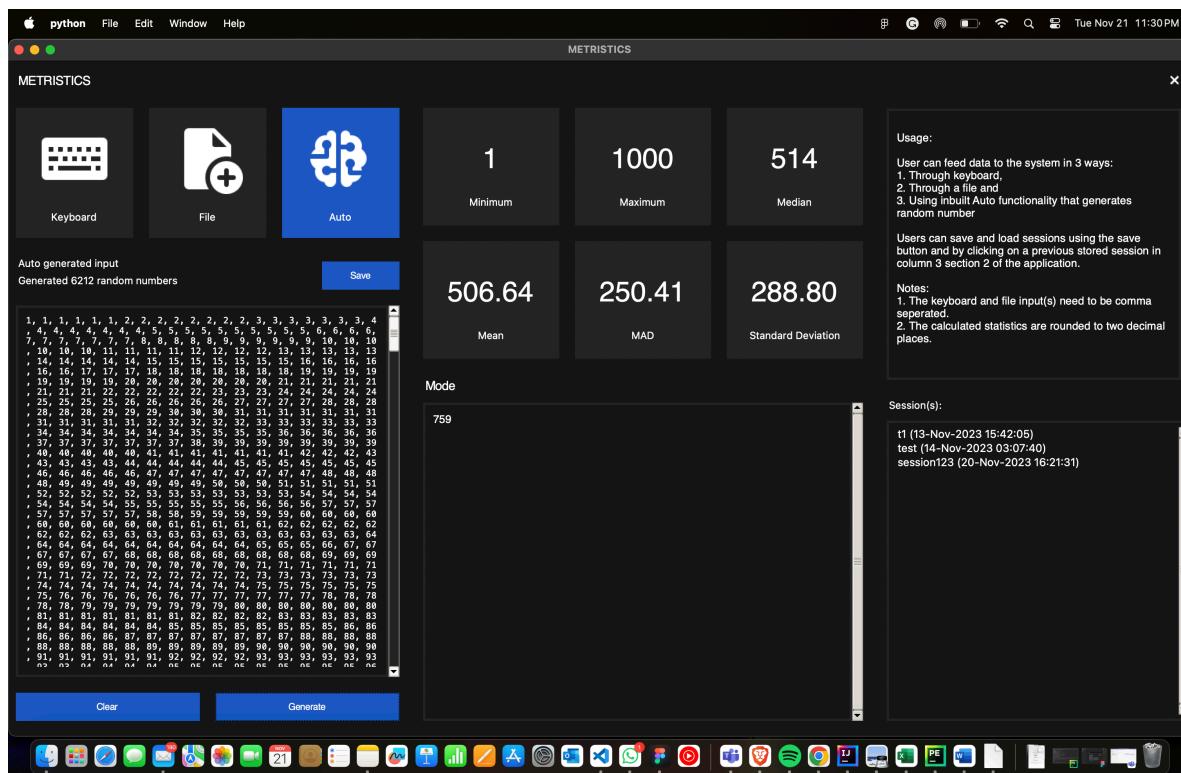
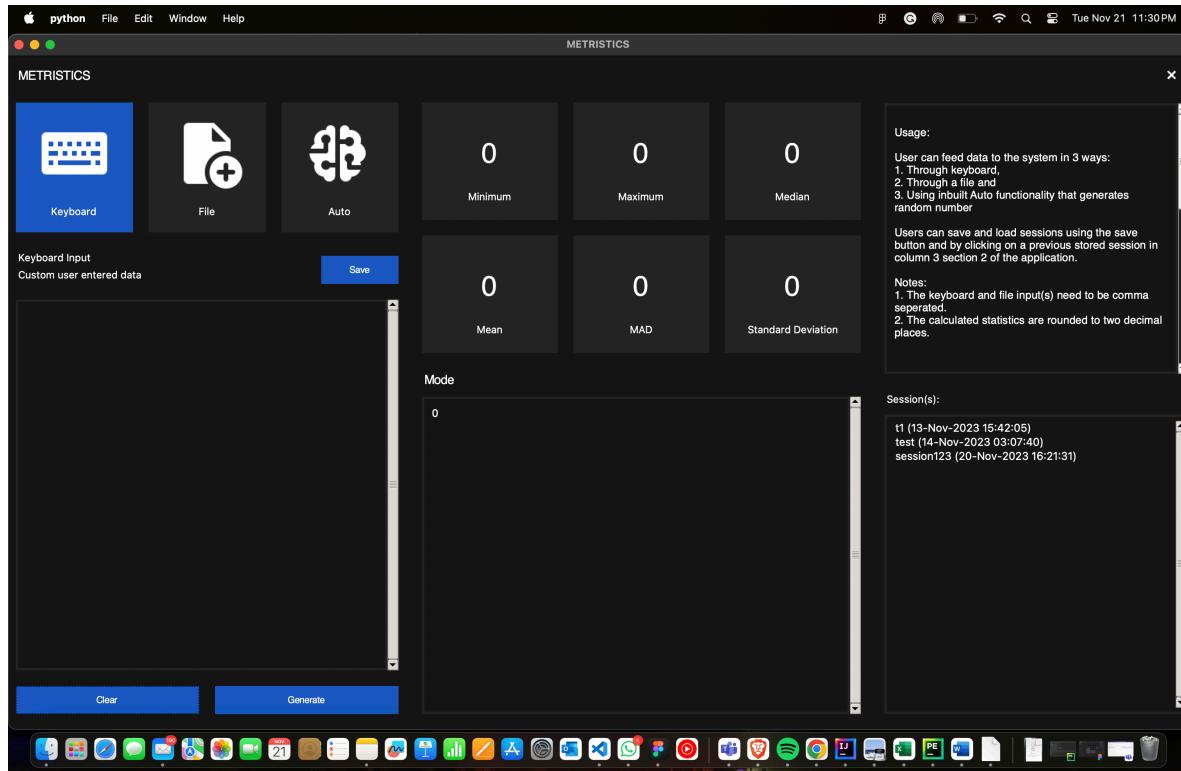
Steps:

- Use a random data generator to create a dataset with values between 0 and 1,000.
- Verify that METRICSTICS processes the data without errors.
- Check the output for descriptive statistics such as mean, standard deviation, minimum, maximum, mode, median, and mean absolute deviation.
- Compare the output with manually calculated values or any other tool to ensure accuracy.

Expected Result:

- METRICSTICS successfully reads and processes the auto-generated dataset, producing accurate descriptive statistics.

Actual Result:



Outcome: Passed

4. Save session test

Description:

- Test the functionality of saving the session (state of the application) in METRICSTICS

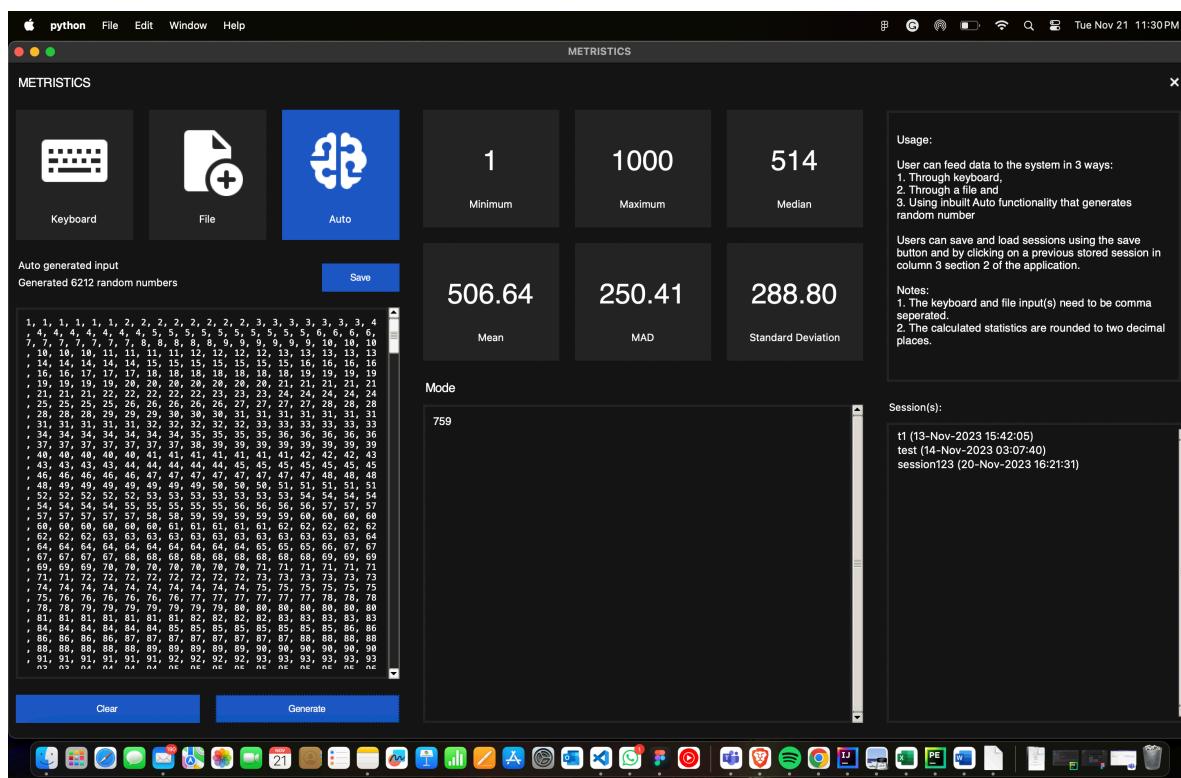
Steps:

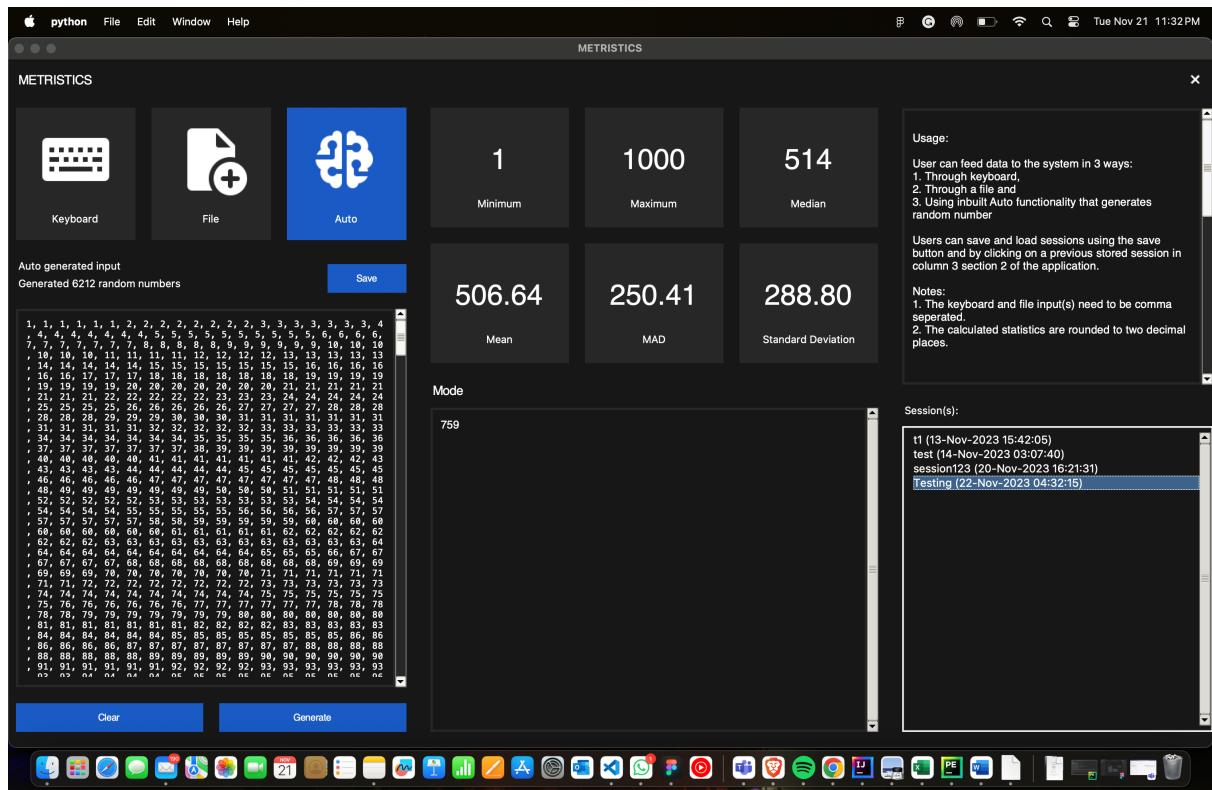
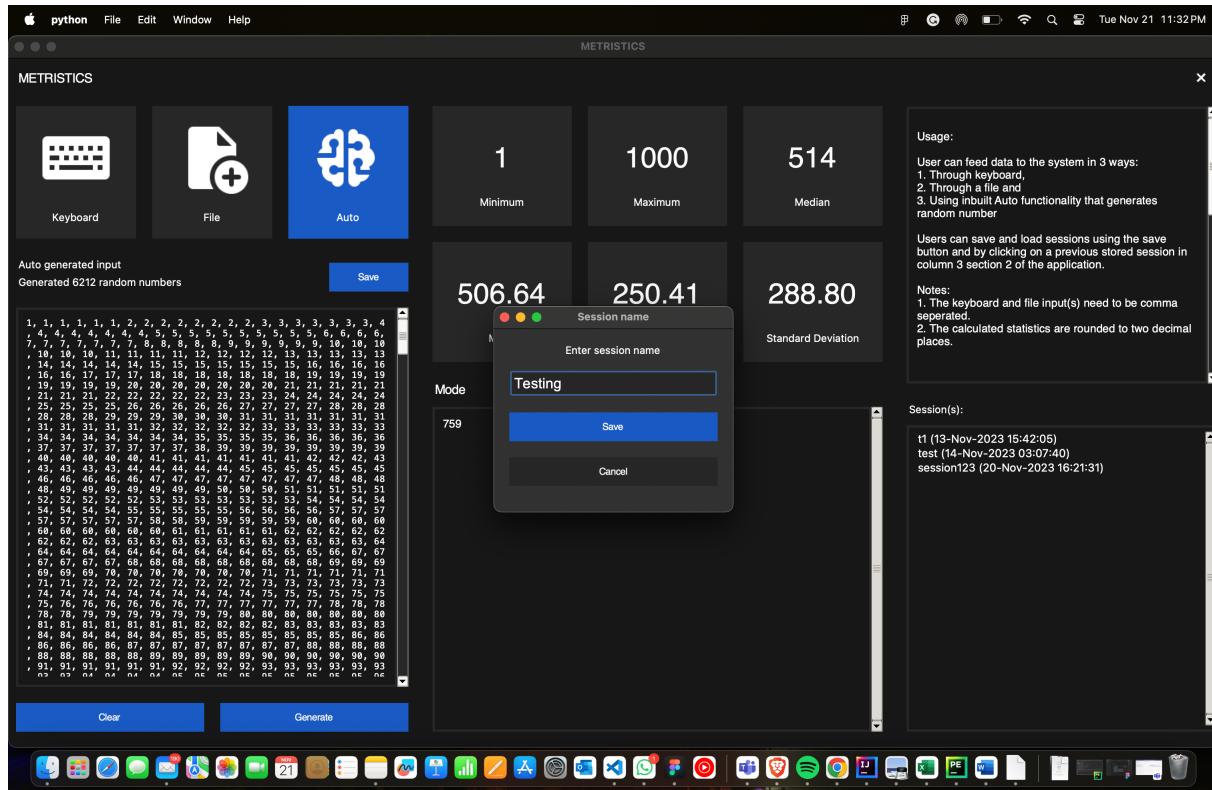
- Use METRICSTICS to calculate descriptive statistics for a dataset.
- Save the session, including input data and calculated statistics.
- Input data should be saved in a file
- The session meta data should be saved in the JSON file.
- Verify that METRICSTICS correctly saves the session.

Expected Result:

- METRICSTICS successfully saves and loads sessions, preserving input data, configuration settings, and calculated statistics.

Actual Result:





The screenshot shows a code editor with two tabs open. The left tab is 'session_info.json' containing session statistics for a 'Testing' session. The right tab is 'project_structure.txt' showing the directory structure of the project.

```

{
  "sessions": [
    {
      "id": "cd1faf62-9312-4987-8e0e-727f697818e6",
      "name": "Testing",
      "datasetFilePath": "sessions/datasets/354038da-e2ae-441e-a7f3-e6fb281790c9.txt",
      "timestamp": 1700627535,
      "results": {
        "min": 1,
        "max": 1000,
        "mean": 506.6416613007083,
        "median": 514.0,
        "mode": [
          759
        ],
        "mean_abs_deviation": 250.40522653326474,
        "std_deviation": 288.8009345052351
      }
    }
  ]
}

```

The screenshot shows a code editor with the same two tabs as the previous screenshot. A large terminal window is open, displaying the contents of '354038da-e2ae-441e-a7f3-e6fb281790c9.txt'. The terminal output is a long list of numerical values, likely session data points.

Outcome: Passed

5. Loading a session test

Description:

- Test the functionality of loading a session (state of the application) in METRICSTICS

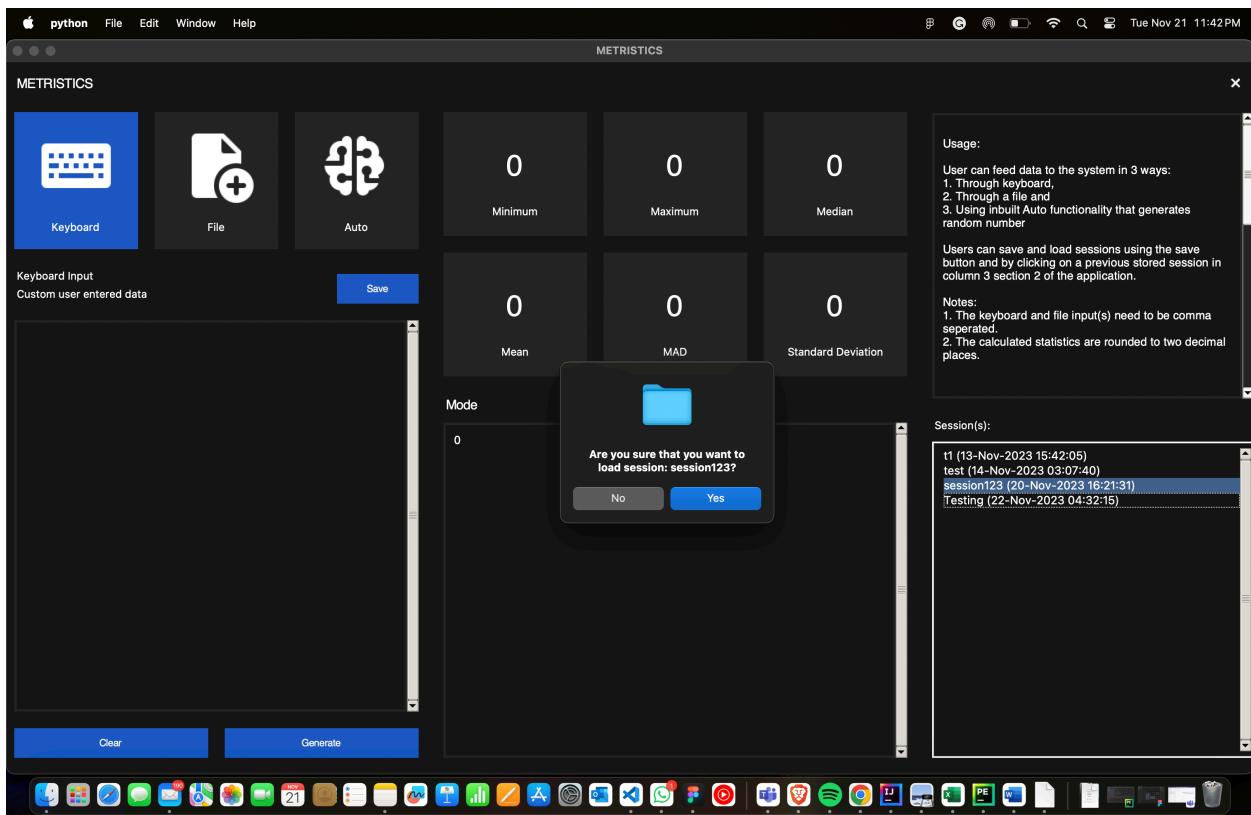
Steps:

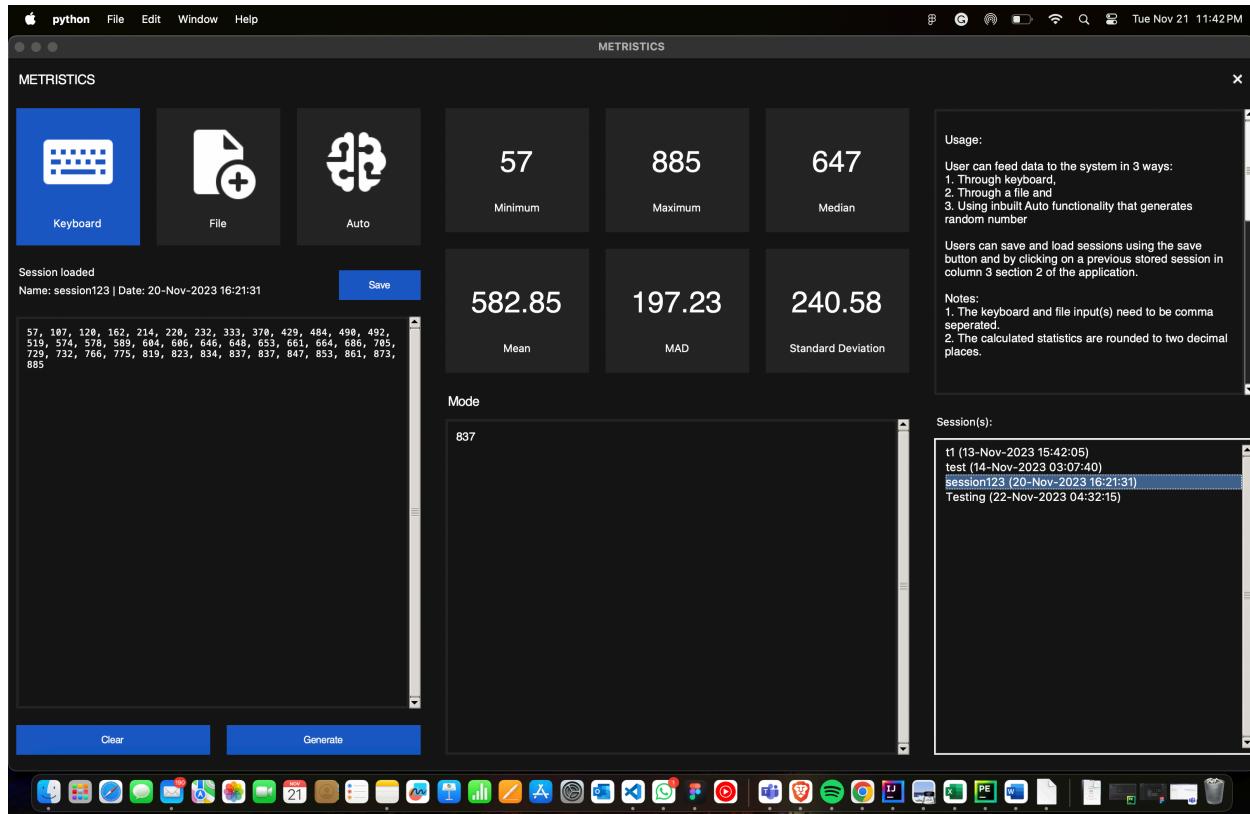
- Click on a previously stored session to load it.
- Verify that METRICSTICS restores the saved session correctly, including input data and statistics.

Expected Result:

- METRICSTICS successfully loads the selected sessions.

Actual Result:





Outcome: Passed

6. The user cannot save a session without generating metrics

Description:

- Test the restriction that prevents users from saving a session without generating metrics. Ensure that METRICSTICS enforces the requirement to calculate descriptive statistics before allowing the user to save a session.

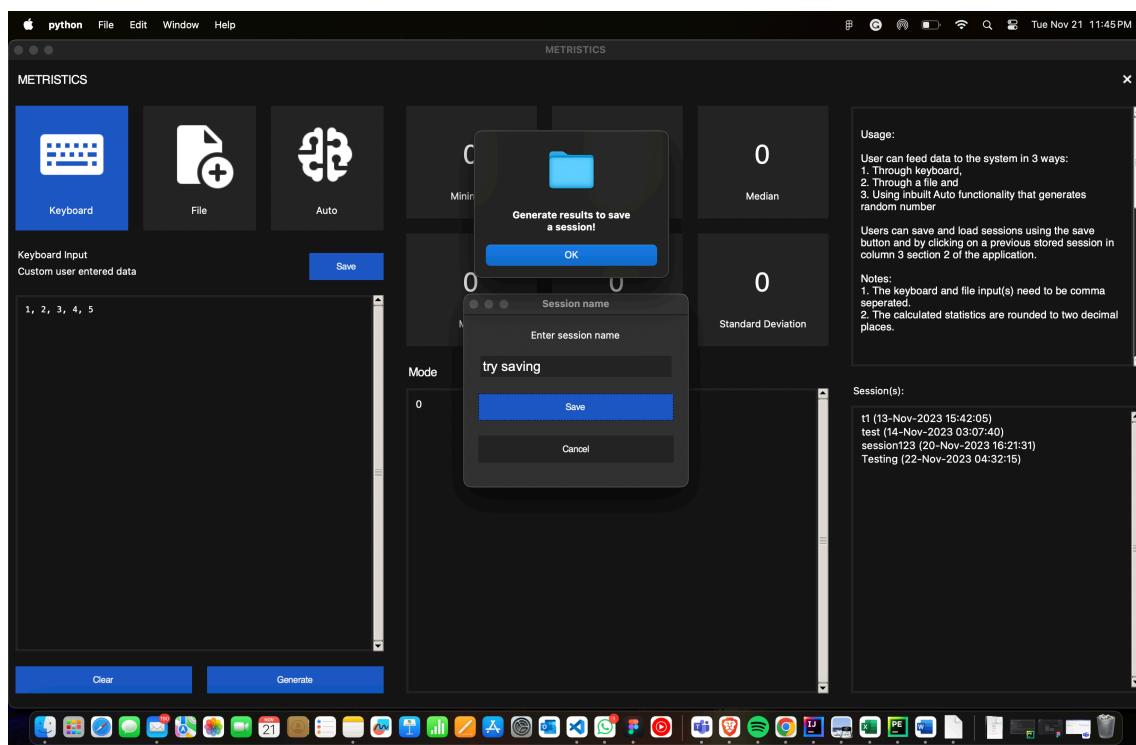
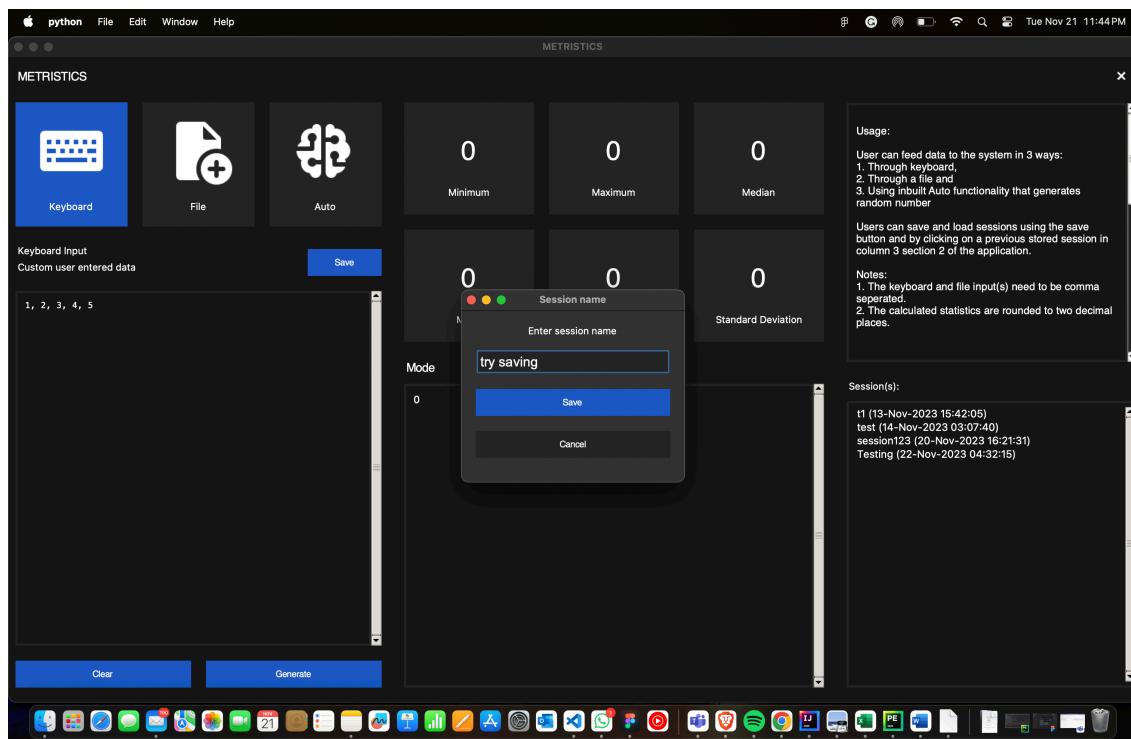
Steps:

- Input a dataset into METRICSTICS.
- Attempt to save the session without calculating any metrics.
- Verify the response from METRICSTICS and check for any error messages or warnings.
- Calculate descriptive statistics for the dataset.
- Save the session again.
- Confirm that METRICSTICS allows the session to be saved after metrics are generated.

Expected Result:

- METRICSTICS should not allow the user to save a session without first generating descriptive statistics. An appropriate error message or warning should be displayed in case of an attempt to save without metrics.

Actual Result:



Outcome: Passed

7. Clear input test

Description:

- Test the functionality of the "clear input" feature in METRICSTICS, ensuring that it effectively removes any existing input data and calculated metrics.

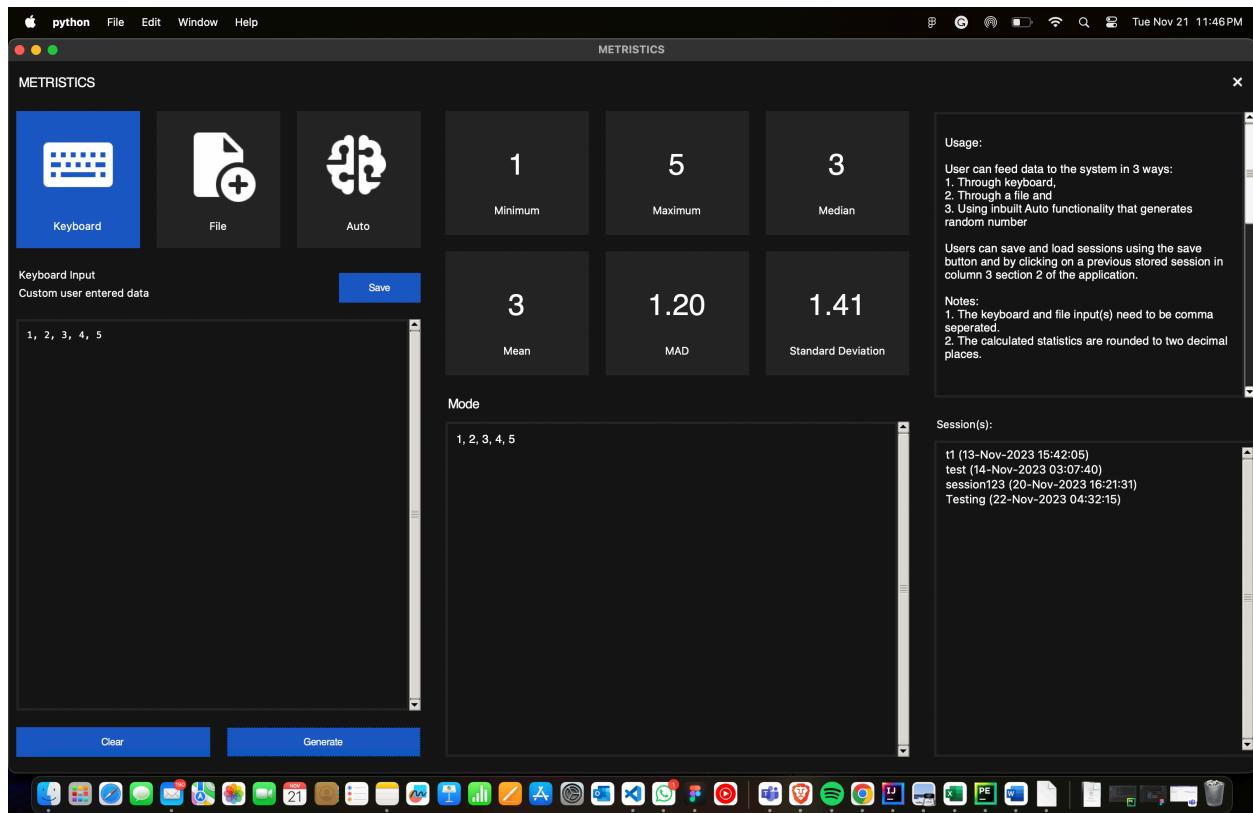
Steps:

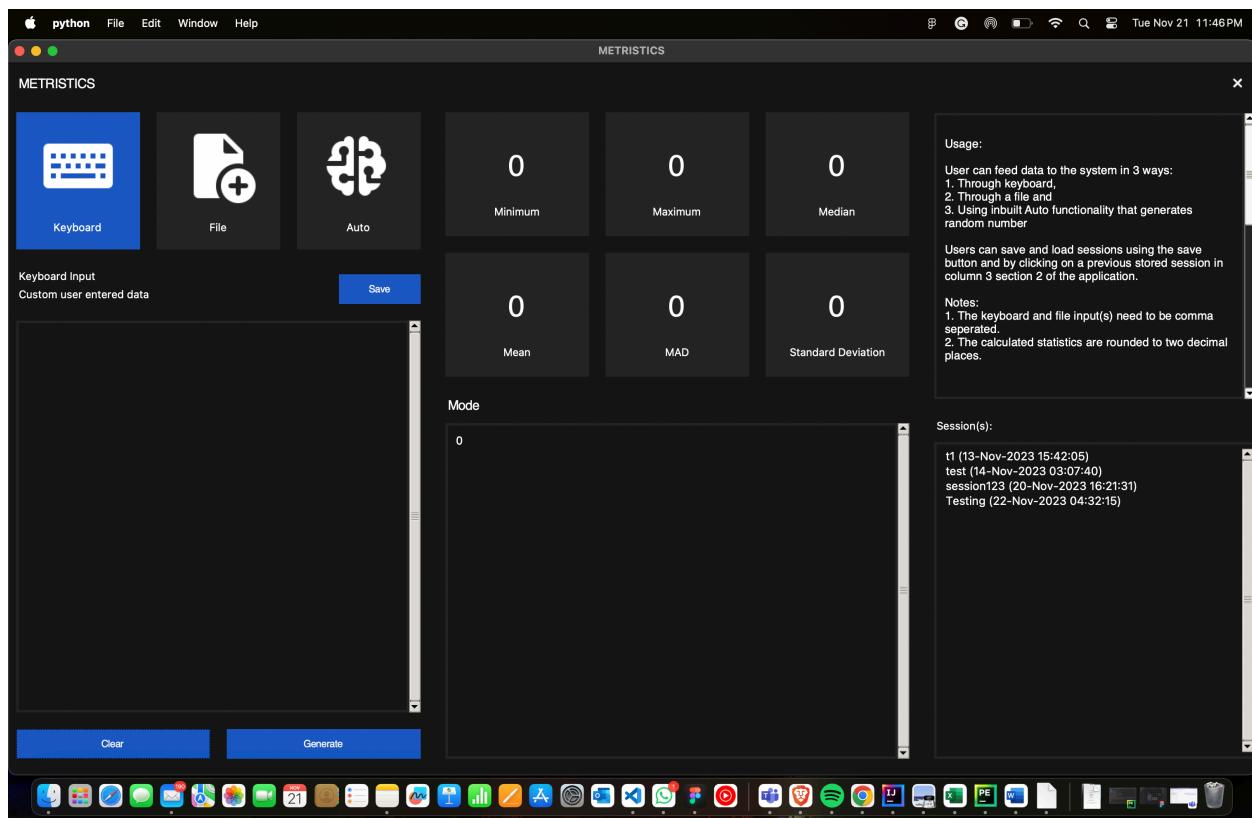
- Input a dataset into METRICSTICS.
- Calculate descriptive statistics for the dataset.
- Use the "clear input" feature in METRICSTICS.
- Verify that the input data and any previously calculated metrics are completely cleared.
- Attempt to recalculate metrics after clearing the input.
- Ensure that METRICSTICS provides accurate metrics for a new dataset.

Expected Result:

- METRICSTICS should successfully clear input data and any associated metrics. After clearing, it should allow the user to input new data and recalculate descriptive statistics.

Actual Result:





Outcome: Passed

Results:

Total different test cases: 11

Passed: 11 out of 11