Welcome to the user manual for the Data Analysis Application. This application helps users analyze data stored in CSV files, providing various charts and metrics for better data understanding.

**System Requirements:**

* Windows 10 machine
* Python 3.6 or later installed
* Required libraries:
  + tkinter,
  + pandas,
  + plotly,
  + scikit-learn, and
  + webbrowser

**Environment Installation:**

1. (Preferred) Download PyCharm Community Edition for a consistent development environment (https://www.jetbrains.com/edu-products/download/other-PCE.html)
2. To install PyCharm Community Edition and required packages, follow these steps:
   1. Download PyCharm Community Edition for Windows from <https://www.jetbrains.com/edu-products/download/other-PCE.html>.
   2. Double-click the downloaded file to start the installation process.
   3. Follow the installation wizard prompts to complete the installation, choosing to install for all users or just for yourself and selecting the installation location.
   4. Open PyCharm Community Edition.
   5. Click on the Windows Start button and locate PyCharm Community in the JetBrains folder.
   6. Run PyCharm Community and click "Agree" to the Terms and Conditions.
   7. If prompted with a Windows Security Alert message, select "Allow access".
   8. Select the middle folder that reads "Open".
   9. In the Open File or Project menu, locate the saved C964\_Capstone-Diabetes-ML-Predicator\_031923 project.
   10. Click "Yes" to trust the author of the project.
   11. The project will now be loaded into the PyCharm editor, but first, install the following packages:
       1. To install the tkinter package, go to the "File" menu and select "Settings" (or "Preferences" on a Mac).
          1. In the left-hand pane of the Settings/Preferences window, click "Project: <your project name>" (or "Project Interpreter" if you don't have a project open yet).
          2. In the right-hand pane, click the "+" button to add a new package.
       2. In the "Available Packages" window, type "tkinter" in the search bar and click the checkbox next to it in the search results.
          1. Click the "Install Package" button at the bottom right of the window.
          2. Wait for the package to install.
       3. Repeat steps 6-10 for the pandas, plotly, scikit-learn, and webbrowser packages.
       4. Once all packages are installed, import them into your code and use them in your PyCharm projects.
3. (Optional) Download and install Python 3.6 or later from the official Python website (https://www.python.org/downloads/).

**To use the Data Analysis Application:**

1. Open the application using Python or PyCharm.
2. The Data Analysis window will appear.
3. Click the "Browse" button and select a CSV file (e.g., "diabetes\_data.csv") for analysis.
4. The selected file's path will be displayed in the text field next to the "Browse" button.
5. Click the "Analyze" button to generate charts and metrics for the selected file.
6. Pie chart of the target variable and scatter matrix of all features will be displayed in separate browser tabs.
7. Linear regression plots and histograms for all features will also appear in separate browser tabs.
8. The "MSE" and "R2 Score" values for the linear regression model will be displayed below the "Analyze" button.

We hope this user manual helps you effectively use the Data Analysis Application. If you have any questions or issues, please contact us.

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C:\<some\_path>\<some\_other\_path\PycharmProjects\C964\_Capstone-Diabetes-ML-Predicator\_031923\diabetes\_data.csv

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