1. **Data:**
    The data set which has been used for the report is Pima Indians Diabetes Database sourced from National Institute of Diabetes and Digestive and Kidney Diseases, comprising several medical predictor variables such as pregnancies, glucose level, blood pressure, skin thickness, insulin level, BMI, diabetes pedigree function and age; it also has a target variable that shows whether or not a patient has diabetes (Outcome).

2. **Code:**
    This code has several steps that are performed to enable its functioning.
    First, the dataset is loaded using Pandas read_csv() function. Next is displaying the first and last few rows of the dataset which can help in understanding its structure and contents.

    Check for data types of columns to ensure they are suitable for analysis.
    "How does glucose levels vary with age for diabetic versus non-diabetic patients?"

    Perform exploratory data analysis (EDA) and visualization: A scatter plot will be made to show relation between glucose level and age where diabetic people are differentiated by color from non-diabetic ones.

3. **Approach:**
    Because of its vital role in managing and diagnosing diabetes, I have chosen to focus on the relationship between age and glucose levels in both diabetic and non-diabetic groups. This association will be visualized to better understand how age affects glucose levels among individuals with diabetes compared to those without it. This kind of research suits itself well for scatter plots as they are able to show relationships between two continuous variables quite clearly. What's more these can be used with Seaborn's scatterplot() function allowing one to quickly identify people who suffer from diabetes using color as an indicator.

In conclusion, exploratory data analysis combined with visualization tools is employed by this approach in order to comprehend how age influences diabetes.


Exploring How Blood Sugar Changes with Age in Diabetes

Introduction: High blood sugar is the main symptom of diabetes. This knowledge of how this changes as we get older is crucial for identification and management of diabetes. By delving into data, this study intends to establish variations in blood sugar levels or glucose levels over the years between people with diabetes and without.

Data Overview: The Pima Indians Diabetes Database provides some medical details that include, numbers of pregnancies a woman has had, glucose concentrations, blood pressure values, body mass index (BMI) and age. However, for purposes of our attention we are narrowing down onto glucose levels and age only since these parameters matter most when dealing with diabetes.

Question Formulation: The main question we have here is pretty simple; what are the patterns in blood sugar concentration against age among patients diagnosed with diabetes and those who have not? As far as this subject is concerned, it provokes us to understand if there can be any trend that can facilitate early detection or better management of diabetes.

Exploratory Data Analysis: We constructed a scatter plot to start addressing our question. Just picture a number of points on a graph that represent each individual's data point in our dataset.

Glucose Level vs. Age for Diabetic and Non-Diabetic Patients
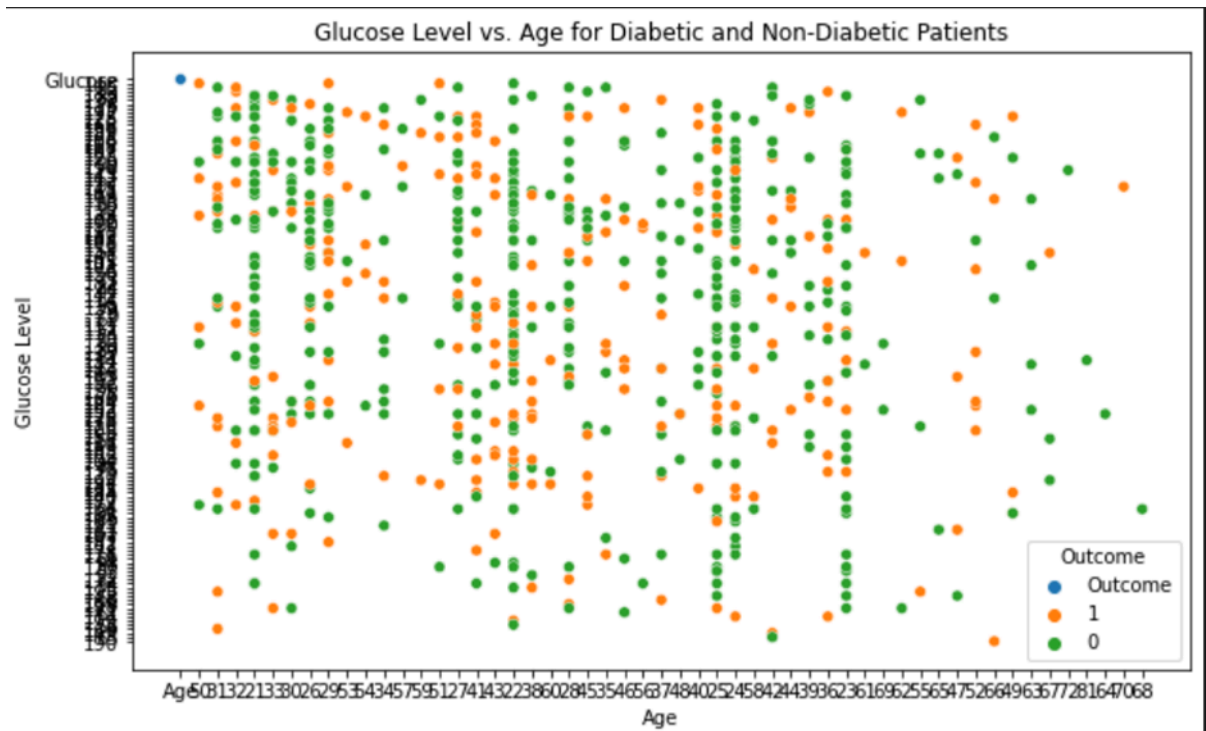
Results:
The following are the results:

Ordinarily, the majority of individuals have high blood sugar levels as they become older. Everybody knows that.

Nevertheless, male or female regardless of age diabetes sufferers have an increased blood sugar compared to a man with a normal body metabolism.

Furthermore, there seems to be an increase in the divergence between blood sugar levels in people with diabetes and those without it as they get older. In other words, diabetes might be more influential on our blood sugars as we grow old.

Conclusion:
So what do these findings mean? Knowingly how blood glucose varies with time is very essential in

early diagnosis and management of diabetes. It's just like peeping into our insides. Going forward it would be interesting to probe deeper into why there are changes in blood glucose level with age and ways of assisting elderly individuals with diabetes should be explored.