**Description for diabetes dataset visualization :**

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### 1. Dataset Loading

The dataset was loaded using a Python library to manage tabular data efficiently. This allowed us to inspect the dataset, understand its structure, check for missing values, and identify important columns such as `Glucose`, `BMI`, `Age`, and `Outcome`.

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### 2. Visualizations

### Distribution of Glucose Levels

A histogram was used to show the frequency distribution of glucose levels in the dataset. A smooth curve (Kernel Density Estimation) was overlaid to provide a clearer view of the data distribution, helping identify common ranges and outliers.

### BMI vs Diabetes Outcome

A boxplot was used to compare BMI values between individuals with and without diabetes. It displayed key statistics like the median, quartiles, and outliers for each group, making it easier to identify differences in BMI across the two outcomes.

### Correlation Heatmap

A heatmap was generated to visualize the relationships between numerical features in the dataset. It highlighted positive and negative correlations, such as the relationship between glucose levels, age, BMI, and diabetes outcome, helping identify key predictors of diabetes.

### Age vs Glucose

A scatter plot was used to analyze how glucose levels varied with age. Points were colored based on the diabetes outcome (presence or absence), allowing for easy observation of trends and clusters in the data.