Assignment 1 - Exploratory Data Analysis (EDA)

This assignment performs Exploratory Data Analysis (EDA) on the dataset **'updated dataset.csv'** using Python. The main objectives are to load the dataset, understand its structure, and visualize relationships among features.

Code Steps:
1. Import required libraries: numpy, pandas, matplotlib, seaborn.
2. Load the dataset and verify successful import.
3. Display first 5 rows, dataset shape, data types, null values, and statistical summary.
4. Generate key visualizations:
   • Histogram of numerical columns
   • Gender vs Diabetes count plot
   • Correlation heatmap
5. Print completion message after EDA.

Visualizations Generated:
1. Histogram of all numerical columns to analyze data distribution.
2. Count plot of 'gender' vs 'diabetes' to observe categorical relationship.
3. Correlation heatmap to understand inter-feature relationships.

Expected Output:
■ Data loaded successfully
■ Display of first 5 rows
■ Dataset shape, data types, null values, and statistical summary
■ Visualization windows displaying histograms, count plots, and heatmap
■ EDA Completed Successfully!

Conclusion:
This script provides a complete exploratory data analysis pipeline. It successfully loads, analyzes, and visualizes dataset characteristics to aid in understanding data distribution, correlations, and patterns.