Interactive Health Chatbot with Data Visualization for Disease Statistics

# Problem Statement

Health information is often fragmented, difficult to access, and overwhelming for users. This project aims to bridge that gap by creating an interactive health chatbot, capable of answering health-related questions instantly while offering a data visualization tool to simplify the interpretation of disease statistics.

# Algorithm

1. \*\*Initialize AIML Kernel:\*\*  
 - Load the AIML file for chatbot interaction.  
 - Define conversational patterns for health queries.  
  
2. \*\*User Interaction:\*\*  
 - Receive input from the user.  
 - Use the AIML kernel to match patterns and respond with health-related information.  
  
3. \*\*Data Visualization:\*\*  
 - Import Pandas and Matplotlib.  
 - Define a dataset of disease statistics.  
 - Create a bar chart with diseases on the x-axis and number of cases on the y-axis.  
  
4. \*\*Display Results:\*\*  
 - Provide the chatbot’s response along with visual representation of data for better understanding.

# Dataset Authentication

Disease statistics are sourced from verified public health databases. Data is cleaned and structured using Pandas to ensure accuracy.

# Expected Output

1. \*\*Health Chatbot\*\* – Provides quick and accurate responses to health queries.  
2. \*\*Visualization\*\* – A clear and concise bar chart displaying disease prevalence, allowing users to easily interpret statistics.

# Flowcharts

## 1. AIML-based Health Chatbot

[ Start ]  
 |  
 v  
[ Initialize AIML Kernel ]  
 |  
 v  
[ Load AIML File ]  
 |  
 v  
[ User Input ]  
 |  
 v  
[ Match Input to AIML Pattern ]  
 |  
 v  
[ Respond with Predefined Answer ]  
 |  
 v  
[ Display Chatbot Response ]  
 |  
 v  
[ End ]

## 2. Disease Statistics Visualization

[ Start ]  
 |  
 v  
[ Import Pandas and Matplotlib Libraries ]  
 |  
 v  
[ Load Disease Statistics Dataset ]  
 |  
 v  
[ Convert Dataset to Pandas DataFrame ]  
 |  
 v  
[ Create Bar Chart (x-axis: Disease, y-axis: Cases) ]  
 |  
 v  
[ Add Labels and Titles ]  
 |  
 v  
[ Display Bar Chart ]  
 |  
 v  
[ End ]