Written Explanations

I have written main code in main.py
Explanation:
This Python code detects crisis situations in text input and calculates an urgency score to determine whether immediate action is required. It uses Natural Language Processing (NLP) techniques with libraries like NLTK and spaCy. Key steps include:

1. Tokenization and Sentiment Analysis: The nltk_tokenize_and_filter function tokenizes the input and removes stop words, while spacy_analyze extracts named entities. Sentiment analysis is done by counting occurrences of positive and negative words in the text.
2. Crisis Keyword Detection: The detect_keywords function checks for specific crisis-related terms, such as "suicide" or "emergency."
3. Urgency Score Calculation: The score is based on detected keywords, sentiment, and the time of day. A higher score indicates greater urgency.
4. Alert System: If the urgency score exceeds a threshold, staff are alerted.
5. Appointment Scheduling: The system recommends a target date for patient appointments based on the urgency score.

The user is prompted to input a message, and the system processes it to provide crisis detection, sentiment analysis, urgency scoring, and appointment scheduling results.

I also made a front end using Streamlit in app.py:
Explanation:
This code builds a web application using Streamlit to handle user inputs and display results dynamically. It integrates the same crisis detection logic as the first code but adds a user-friendly UI with a background image and buttons. Key additions include:

1. Streamlit Interface: The user can enter a message through a text area, and results are displayed on the same page.
2. Background Image: The add_bg_image function allows for a custom background image in the app.
3. Clear Inputs: A 'Clear' button resets all inputs and results, providing a smoother user experience.
4. Interactive Result Display: After processing the input, the app shows detected keywords, sentiment, urgency score, and whether to alert staff. It also schedules appointments based on urgency.