**Workflow and Functionalities of Report Generation**

This document outlines the workflow and functionalities of the *CryptoAssistant* class for generating a Shariah compliance report on a given cryptocurrency token.

**1. Initialization**

The *CryptoAssistant* class initializes with API keys for *OpenAI* and Bing Search, setting up the necessary configuration to interact with these services.

**2. Bing Search**

The *bing\_search* method is triggered by user input. Specifically, it performs a Bing search using the provided token name combined with specific suffixes such as "official website" and "*CoinMarketCap*". This strategy ensures more accurate search results by targeting the official and reputable sources of information. The method retrieves only the top two search results for each query, focusing on the most relevant URLs.

**3. Gathering Information**

The *gather\_information* method takes the list of URLs obtained from the Bing search and scrapes the content from each URL. It differentiates between official site text and whitepaper text, categorizing the information accordingly. This ensures that the analysis is based on both general information and detailed technical documents.

**4. Scraping Website Content**

The *scrape\_website* method is responsible for scraping the content of a given URL using *BeautifulSoup*. It cleans and processes the text to remove unnecessary formatting, ensuring that the information is in a usable form for further analysis.

**5. Analyzing with OpenAI**

The *analyze\_with\_openai* method leverages the *OpenAI* API to analyze the collected information. It constructs a detailed prompt outlining the requirements for Shariah compliance analysis and sends this prompt to the OpenAI model. The model then provides a comprehensive analysis based on the input data.

**6. Generating the Shariah Compliance Report**

The *analyze\_documents\_and\_generate\_report* method creates a prompt for the *OpenAI* model using the gathered information. This prompt includes specific instructions for analyzing the protocol and token from a Shariah compliance perspective. The method then calls *analyze\_with\_openai* to generate the final report.

**7. Main Function**

The main function orchestrates the entire process. It prompts the user to provide a token for analysis, performs Bing searches with specific suffixes ("*official website*" and "*CoinMarketCap*") to gather relevant URLs, and invokes the necessary methods to gather information and generate the report. The workflow ensures that the assistant systematically collects, analyzes, and reports on the Shariah compliance of the given cryptocurrency token.

**Summary**

The workflow for generating a Shariah compliance report involves:

1. Initializing the *CryptoAssistant* class with the required API keys.
2. Performing a Bing search triggered by user input, using specific suffixes to gather relevant URLs.
3. Scraping the content from these URLs.
4. Using the *OpenAI* API to analyze the gathered information.
5. Generating a detailed Shariah compliance report based on the analysis.

This structured approach ensures a thorough evaluation of the Shariah compliance of a cryptocurrency token, utilizing reliable data sources and advanced AI analysis.