AI Chatbot Development

Summary:

The SMC Chatbot has several issues, including potential logical errors and inefficient code structure.

Steps to Reproduce:

1. Run the program.
2. Engage in a conversation with the chatbot by inputting various queries and statements.

Expected Behavior:

1. The chatbot should respond appropriately to greetings, queries about its name, and specific questions about SMC.
2. Responses should be generated based on the content of the input query using cosine similarity and TF-IDF vectorization.
3. The chatbot should handle different types of inputs gracefully, including greetings, questions, and farewell messages.

Observed Behavior:

1. The chatbot's responses may not always be relevant or coherent with the user's input, indicating potential issues with the response generation algorithm.
2. The code contains redundant functions for response generation (`**response**` and `**responseone**`), which perform similar tasks but operate on different sets of data (`**sent_tokens**` and `**sent_tokensone**`).
3. The chatbot does not handle cases where the user's input contains variations of greetings (e.g., "**hello**", "**hi**", "**hey**") consistently. It only responds to exact matches of predefined greetings.
4. There is no clear distinction between the chatbot's introductory response and its response to user input, leading to confusion in the conversation flow.

Environment:

- Operating System: [**Windows**]
- Python Version: [**Python 3.10.7**]

Additional Notes:

- Refactor the code to consolidate the `**response**` and `**responseone**` functions into a single function that operates on a generic set of data.
- Improve the algorithm for response generation to ensure more relevant and coherent responses to user input.
- Implement a more robust mechanism for handling greetings, including variations of common greetings and responses tailored to different contexts.
- Clarify the conversation flow by separating the chatbot's introductory response from its responses to user queries and statements.