Infosys Chatbot: A Streamlit-Based Interactive Q&A Application

- OVERVIEW:

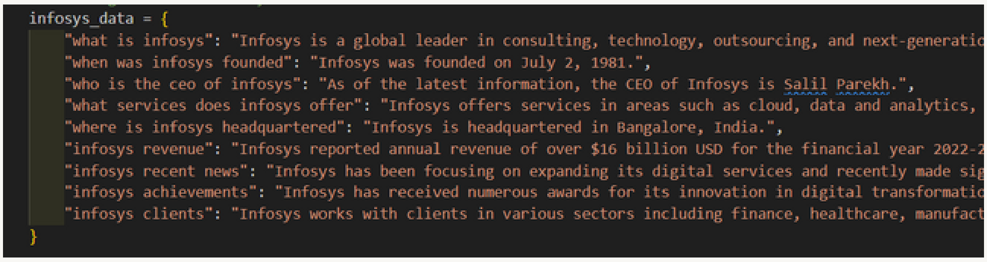
  This code provides an Infosys chatbot application using Streamlit, a Python framework for building web applications.

- Importing the Streamlit Library

  The streamlit library is imported as st, which is used to build the user interface of the chatbot.

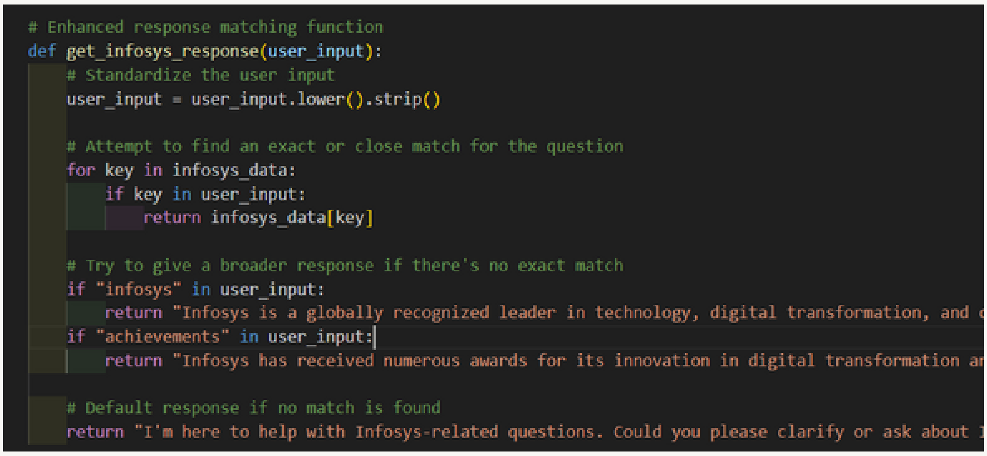
```python
import streamlit as st
```

- Knowledge Base
  - This dictionary, infosys_data, holds questions as keys and their respective answers as values.
  - It serves as the knowledge base that the chatbot references to provide responses.



```python
infosys_data = {
    "what is infosys": "Infosys is a global leader in consulting, technology, outsourcing, and next-generatio
    "when was infosys founded": "Infosys was founded on July 2, 1981.",
    "who is the ceo of infosys": "As of the latest information, the CEO of Infosys is Salil Parekh.",
    "what services does infosys offer": "Infosys offers services in areas such as cloud, data and analytics,
    "where is infosys headquartered": "Infosys is headquartered in Bangalore, India.",
    "infosys revenue": "Infosys reported annual revenue of over $16 billion USD for the financial year 2022-2
    "infosys recent news": "Infosys has been focusing on expanding its digital services and recently made sig
    "infosys achievements": "Infosys has received numerous awards for its innovation in digital transformatio
    "infosys clients": "Infosys works with clients in various sectors including finance, healthcare, manufact
}
```

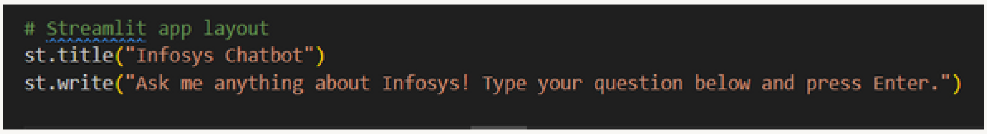
- Enhanced Response Matching Function
  - Input Processing: The user_input is standardized by converting it to lowercase and removing extra spaces.
  - Matching Logic: The function iterates over infosys_data to check if any key matches a part of user_input. If a match is found, it returns the corresponding ans
  - Fallback Responses: If there's no exact match, it provides a broader response about Infosys. If "achievements" or "infosys" is mentioned, it returns relevant information.
  - Default Response: If no keywords match, it provides a generic prompt asking the user to rephrase or specify their question.



```python
# Enhanced response matching function
def get_infosys_response(user_input):
    # Standardize the user input
    user_input = user_input.lower().strip()

    # Attempt to find an exact or close match for the question
    for key in infosys_data:
        if key in user_input:
            return infosys_data[key]

    # Try to give a broader response if there's no exact match
    if "infosys" in user_input:
        return "Infosys is a globally recognized leader in technology, digital transformation, and
    if "achievements" in user_input:
        return "Infosys has received numerous awards for its innovation in digital transformation a

    # Default response if no match is found
    return "I'm here to help with Infosys-related questions. Could you please clarify or ask about
```

- Streamlit App Layout

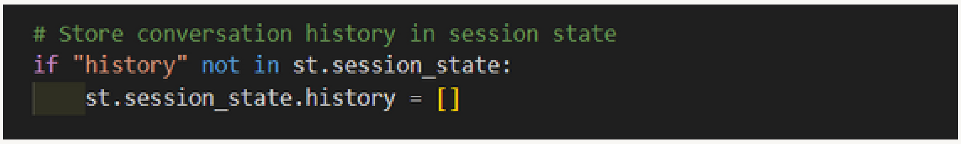
Title and Prompt: Sets the title for the chatbot and provides instructions for the user to type their question.



```python
# Streamlit app layout
st.title("Infosys Chatbot")
st.write("Ask me anything about Infosys! Type your question below and press Enter.")
```

- Conversation History in Session State

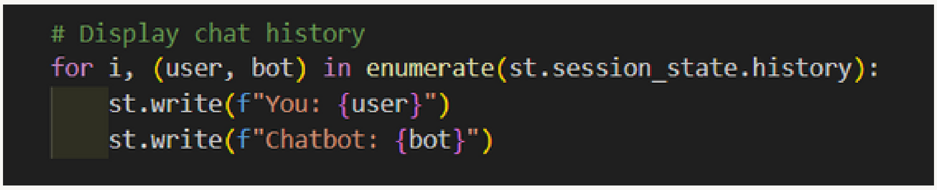
Session State Setup: Initializes an empty list in st.session_state to store conversation history if it doesn't exist yet. This helps maintain chat history during the session.



```python
# Store conversation history in session state
if "history" not in st.session_state:
    st.session_state.history = []
```

- Displaying Conversation History

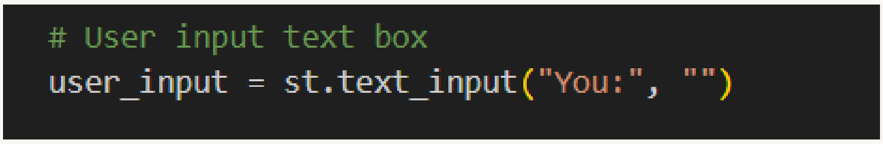
Chat History Display: Iterates through st.session_state.history to display each question-response pair, allowing users to see past interactions.



```python
# Display chat history
for i, (user, bot) in enumerate(st.session_state.history):
    st.write(f"You: {user}")
    st.write(f"Chatbot: {bot}")
```

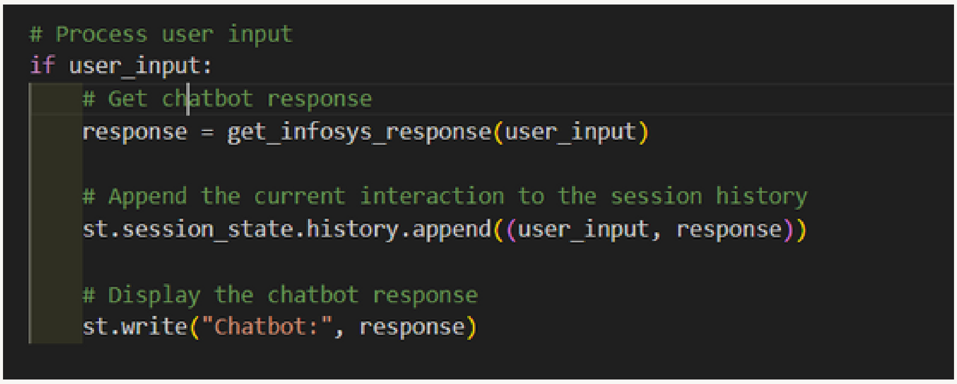
- User Input Text Box

Text Input Field: A st.text_input field allows users to type in their questions. It's stored in the user_input variable.



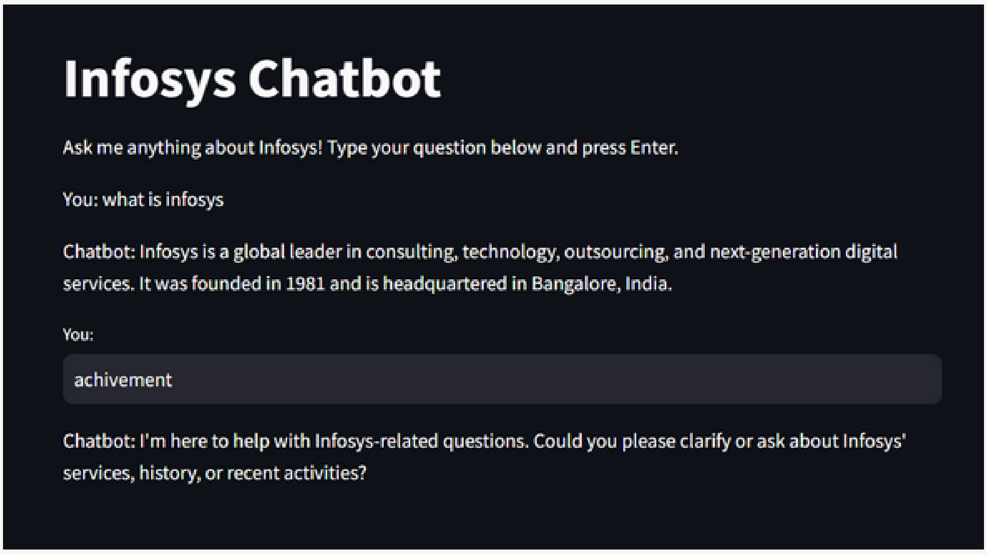
```python
# User input text box
user_input = st.text_input("You:", "")
```

- Processing User Input and Responding
    - Response Generation: When the user provides input, get_infosys_response is called to generate a response.
    - Updating History: The interaction (user question and bot response) is appended to st.session_state.history.
    - Display Response: The chatbot response is displayed on the screen.



```python
# Process user input
if user_input:
    # Get chatbot response
    response = get_infosys_response(user_input)

    # Append the current interaction to the session history
    st.session_state.history.append((user_input, response))

    # Display the chatbot response
    st.write("Chatbot:", response)
```

- streamlit interface



Infosys Chatbot

Ask me anything about Infosys! Type your question below and press Enter.

You: what is infosys

Chatbot: Infosys is a global leader in consulting, technology, outsourcing, and next-generation digital services. It was founded in 1981 and is headquartered in Bangalore, India.

You:

achivement

Chatbot: I'm here to help with Infosys-related questions. Could you please clarify or ask about Infosys' services, history, or recent activities?

- concluson
    - In conclusion, this Streamlit-based Infosys chatbot provides an efficient and user-friendly solution for accessing information about Infosys. By leveraging a simple keyword-based knowledge base, the chatbot responds to user queries with relevant and specific answers, offering quick insights into Infosys's history, services, leadership, and achievements. The application is designed to simulate a conversational experience, where users can interact naturally and view a continuous history of their questions and responses.