

Neuron7 Coding Assignment

Chatbot Development for Financial Banking Website

Objective:

Design a chatbot application that interacts with users visiting a financial banking website. The chatbot should provide relevant responses to user queries based on a dataset of 100 sample frequently asked questions (FAQs) provided.

Requirements:

- Use Python programming language and any framework of your choice (e.g., torch, transformers, keras, tensorflow etc.) to develop the chatbot application.
- Implement a mechanism to take user input in the form of a question.
- Utilize the provided dataset of 100 sample FAQs as the reference for the chatbot's responses.
- Design the application to suggest the top 3 matching FAQs based on the user's input.
- Ensure a user-friendly interface for inputting questions and displaying suggested matches.

Dataset Information:

- You will be provided with a dataset containing 70 sample FAQs relevant to banking and finance topics.
- Each entry in the dataset includes a question and its corresponding answer.

Expected Outcome:

Create an application that incorporates the following functionalities:

- Accept user input in the form of a question.
- Process the user's query and suggest the top 3 matching FAQs based on relevance.
- Display the suggested matches to the user in a clear and understandable format.

Evaluation Criteria:

Your submission will be evaluated based on the following criteria:

- **Accuracy of Matching:** How accurately the chatbot matches user queries to relevant FAQs.
- **Relevance of Responses:** The relevance and appropriateness of the suggested FAQ matches.
- **Code Quality:** The organization, readability, and efficiency of the code.

Submission Guidelines:

Submit the following for evaluation:

- Source code files containing the implementation of the chatbot application.
- Instructions or documentation on how to run and interact with your application.
- Any additional notes or explanations you consider relevant.
- Any resources which were used to develop the application

Additional Notes:

- Feel free to use libraries, frameworks, or APIs as needed to enhance the functionality of the chatbot.
- Ensure that the application runs smoothly and handles edge cases gracefully.
- You are encouraged to add your own creative touch to enhance the user experience.
- While we encourage using multiple resources available online, please refrain from sending an exact replica of a publicly available resource as that **would disqualify your submission**.

Dataset Sample (partial):

Below is a snippet of the provided dataset format (question and corresponding answer):

```
Question: What are the requirements to open a bank account?
Answer: To open a bank account, you typically need a valid ID, proof of
address, and an initial deposit.

Question: How can I check my account balance?
Answer: You can check your account balance through online banking, mobile
banking apps, ATMs, or by visiting a branch.
```

The full FAQ of 70 questions and answers can be found in the file **faq.txt**. The first task is to parse it and create a csv with two columns – Question and Answer and use that for the chatbot problem.