

FAQ Chatbot - CodeAlpha Internship (Task 2)

Python Code:

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# FAQ Chatbot
# CodeAlpha Internship - Task 2

import nltk
import string
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.metrics.pairwise import cosine_similarity

nltk.download('punkt')

# Sample FAQs
faq_questions = [
    "What is Artificial Intelligence?",
    "What is Machine Learning?",
    "What is Deep Learning?",
    "What is Python used for?",
    "What is NLP?"
]

faq_answers = [
    "Artificial Intelligence is the simulation of human intelligence in machines.",
    "Machine Learning is a subset of AI that allows systems to learn from data.",
    "Deep Learning is a type of Machine Learning based on neural networks.",
    "Python is used for web development, AI, data science, and more.",
    "NLP stands for Natural Language Processing, used to understand human language."
]

def chatbot():
    print("FAQ Chatbot (Type 'exit' to quit)")

    while True:
        user_input = input("You: ")

        if user_input.lower() == "exit":
            print("Bot: Thank you!")
            break

        all_questions = faq_questions + [user_input]

        vectorizer = TfidfVectorizer()
        tfidf_matrix = vectorizer.fit_transform(all_questions)

        similarity = cosine_similarity(tfidf_matrix[-1], tfidf_matrix[:-1])
        best_match_index = similarity.argmax()

        print("Bot:", faq_answers[best_match_index])
        print()

if __name__ == "__main__":
    chatbot()
```

Sample Output:

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FAQ Chatbot (Type 'exit' to quit)
```

You: What is AI?

Bot: Artificial Intelligence is the simulation of human intelligence in machines.

You: What is Python used for?

Bot: Python is used for web development, AI, data science, and more.

You: exit

Bot: Thank you!