# Basic AI Chatbot Prototype for E-commerce

## Objective :

The objective of this project is to develop a basic AI chatbot prototype that can assist users with common queries related to e-commerce. The chatbot handles basic greetings, farewells, and answers at least five frequently asked questions (FAQs) related to e-commerce. It also provides fallback responses for unrecognized queries.

## Approach :

### Frontend Development :

Created a simple and user-friendly chat interface using HTML and CSS.
Integrated JavaScript to handle user inputs and send them to the backend.

### Backend Development :

Developed a Flask application to serve the frontend and handle user inputs.
Utilized spaCy for basic Natural Language Processing (NLP) to understand user queries.
Employed FuzzyWuzzy to match user queries with predefined FAQs stored in a JSON file.

### NLP and FAQ Matching :

Loaded FAQs from a JSON file containing questions and corresponding answers.
Used spaCy to preprocess user inputs.
Implemented FuzzyWuzzy's token sort ratio to find the best matching FAQ based on string similarity.
Set a similarity threshold to determine if the chatbot can answer the query or provide a fallback response.

## Technologies Used :

**HTML/CSS :** For creating the chat interface.
**JavaScript :** For handling user interactions and sending data to the backend.
**Flask :** As the web framework for handling HTTP requests and serving the application.

**spaCy :** For basic NLP tasks like tokenization.
**FuzzyWuzzy :** For string similarity matching to find the best matching FAQ.

## Challenges :

**String Similarity Threshold :** Determining an appropriate threshold for string similarity to balance between accurate responses and fallback responses.
**NLP Processing :** Handling variations in user inputs effectively to ensure accurate FAQ matching.
**User Interface :** Designing a responsive and intuitive chat interface that enhances user experience.