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BTech, Third Year, 6 Semester

22AIE315: Natural Langage Processing **Week1-Assignment1**

1. Write a well-structured paragraph describing any chatbot of your choice. Include details such as its purpose, features, working mechanism, and real-world applications. Save this content as a text file named "chatbot.txt".

2. Using Python, process the text extracted from the file by splitting it into individual sentences and words. Display the extracted sentences and words separately to observe the structure of the content.

3. Identify any stop words (common words such as "the," "is," "in," etc.) within the extracted words and remove them from the text. You can use the Natural Language Toolkit (NLTK) or any other suitable library to filter out these stop words.

4. Implement a Python script to count and display the number of stop words and non-stop words in the text. Provide a summary of the word count, indicating how many words were classified as stop words and how many were considered meaningful content words.

5. Select any ten words from the processed text (excluding stop words) and translate them into your native language using Python. You may use an external translation library such as Google Translate API for this task. Display the original words along with their translated equivalents.

6. Identify and extract all named entities (such as names of chatbot models, company names, and technologies) from the text using Named Entity Recognition (NER) techniques.

7. Convert the chatbot description into speech using a TexttoSpeech (TTS) library such as pyttsx3 or gTTS and save the audio file as "chatbotspeech.mp3".