Assignment No: 6 (B2)

Title: Chatbot

Problem statement: Develop elementary chatbot.

Objective: To learn and implement an elementary chatbot

Outcome: Students will be able to understand the basics of nlp and implement elementary chatbot.

S/W and H/W requirements:

- 64-bit open-source Linux OS
- Python

Theory:

- Chatbot is a software application used to conduct an online chat conversion, in lieu of providing direct contact with a live human agent.
- Chatbots are used in dialog systems for various purposes including customer service, information gathering, etc. While some chatbot applications use extensive processors, and sophisticated AI, other simply scan for general keywords and generate response using common phrases obtained from associated library or database.

We use Natural Language Processing for building our chatbot .

Different steps involved are :

1. Loading thedata.
2. Cleaning the data.
3. Model training
4. Taking input from user and providing response.

1. Loading the data

The dataset used contains a collection of words/sentences grouped to their intent in a JSON file.

2. Cleaning the data

For training, we need to clean data by performing normalization, tokenization, lemmatization.

Normalization in NLP is the process of converting a word to its canonical form

Two popular techniques are stemming and lemmatization.

3. Model training

We could use this cleaned data using any classifier.

4. Providing response

To provide a response we take input from user, clean it and then pass to the model to classify it. We then choose any random response from that group and provide result back.

Conclusion: Thus, we have successfully implemented an elementary chatbot.