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# AIR ASSIGNMENT 2

TITLE: Elementary Chatbot

PROBLEM STATEMENT:
Develop elementary chatbot for suggesting investments as per the customer's need.

OBJECTIVES: To develop a basic chatbot to recommend the investments.

OUTCOMES: Develop chatbot for investment.

Slw & Hlw REQUIREMENTS:
NLTK, python3, & GB RAM, 64 bit OS UNIX/LINUX.

THEORY:
i) A chatbot is a software application used to conduct an online chat conversation via text or text-to-speech in a line of providing direct contact with a live human agent.
ii) They are designed to convincingly simulate the way a human would have as a conversational partner.
iii) In order to successfully do the above,

① Understand the target audience.
② Understand the natural language in which communication occurs.
③ Understand the intent & customer.
④ Come up with responses that can answer the user & give further clues.

iv] NLTK (natural language toolkit) is a platform for building python programs to work with human language

v] It includes easy to use interfaces like text processing libraries (classification stemming, tokenization, tagging, semantic reasoning, parsing)

① Most importantly it has a module, nltk.chat, which simplifies building conversational engines by providing a generic framework.

② The libraries are imported from nltk.chat.util & include chat class & reflections class.

③ The chat class processes the conversation between the user & chatbot.

④ 'Reflections' is a dictionary, that when a value in a regex group matches a key in the dictionary, it will output the value in the response.

⑤ Next, we have a variable pairs which is a list of tuples.

⑥ The first item in the pair is the pattern, which can be a string, or a regular expression.

i) The next item is a list of possible responses.
ii) Chat will randomly select a response if the pattern matches the user input.
iii) The default response is 'None'.
iv) When the chat class constructor is passed the custom defined 'pairs' variable alongwith the predefined 'reflections dictionary, on calling the 'converse' method of the chat class, the chatbot is automated.

CONCLUSION:
Elementary chatbot that gives investment recommendations was successfully implemented.