```
!pip install nltk spacy transformers
!python -m spacy download en_core_web_sm
```

```
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from requests<3.0.0,>=2.13.0->s
Requirement already satisfied: blis<0.8.0,>=0.7.8 in /usr/local/lib/python3.11/dist-packages (from thinc<8.3.0,>=8.2.2->spacy
Requirement already satisfied: confection<1.0.0,>=0.0.1 in /usr/local/lib/python3.11/dist-packages (from thinc<8.3.0,>=8.2.2-
Requirement already satisfied: click>=8.0.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy<3.8.0
Requirement already satisfied: shellingham>=1.3.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy
Requirement already satisfied: rich>=10.11.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy<3.8.0
Requirement already satisfied: cloudpathlib<1.0.0,>=0.7.0 in /usr/local/lib/python3.11/dist-packages (from weasel<0.5.0,>=0.1
Requirement already satisfied: smart-open<8.0.0,>=5.2.1 in /usr/local/lib/python3.11/dist-packages (from weasel<0.5.0,>=0.1.0
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.11/dist-packages (from jinja2->spacy<3.8.0,>=3.7.2->
Requirement already satisfied: marisa-trie>=1.1.0 in /usr/local/lib/python3.11/dist-packages (from language-data>=1.2->langco
Requirement already satisfied: markdown-it-py>=2.2.0 in /usr/local/lib/python3.11/dist-packages (from rich>=10.11.0->typer<1.
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in /usr/local/lib/python3.11/dist-packages (from rich>=10.11.0->typer<
Requirement already satisfied: wrapt in /usr/local/lib/python3.11/dist-packages (from smart-open<8.0.0,>=5.2.1->weasel<0.5.0,
Requirement already satisfied: mdurl~=0.1 in /usr/local/lib/python3.11/dist-packages (from markdown-it-py>=2.2.0->rich>=10.11
✓ Download and installation successful
You can now load the package via spacy.load('en_core_web_sm')
⚠ Restart to reload dependencies
If you are in a Jupyter or Colab notebook, you may need to restart Python in
order to load all the package's dependencies. You can do this by selecting the
'Restart kernel' or 'Restart runtime' option.
```

```python
import nltk

nltk.download('punkt_tab')
```

```
[nltk_data] Downloading package punkt_tab to /root/nltk_data...
[nltk_data]   Package punkt_tab is already up-to-date!
True
```

```python
import nltk
nltk.download('punkt')
nltk.download('wordnet')
nltk.download('stopwords')
nltk.download('averaged_perceptron_tagger')
```

```
[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data]   Unzipping tokenizers/punkt.zip.
[nltk_data] Downloading package wordnet to /root/nltk_data...
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data]   Unzipping corpora/stopwords.zip.
[nltk_data] Downloading package averaged_perceptron_tagger to
[nltk_data]     /root/nltk_data...
[nltk_data]   Unzipping taggers/averaged_perceptron_tagger.zip.
True
```

```python
import nltk
print(nltk.data.path)
```

```
['/root/nltk_data', '/usr/nltk_data', '/usr/share/nltk_data', '/usr/lib/nltk_data', '/usr/share/nltk_data', '/usr/local/share/n]
```

```python
import nltk
from nltk.tokenize import word_tokenize
from nltk.corpus import stopwords
import string

# Ensure necessary NLTK downloads
nltk.download('punkt')
nltk.download('wordnet')
nltk.download('stopwords')
nltk.download('averaged_perceptron_tagger')

# Sample FAQ database with 100 questions and answers
faqs = {
    "What is your name?": "I am an FAQ chatbot!",
    "How can I contact support?": "You can contact support at support@example.com.",
    "What are your working hours?": "Our working hours are 9 AM - 5 PM, Monday to Friday.",
    "What is your purpose?": "My purpose is to answer your frequently asked questions.",
    "How do I reset my password?": "To reset your password, please visit the password reset page on our website.",
    "Where are you located?": "Our headquarters are located in San Francisco, California.",
    "What services do you provide?": "We offer a range of services including customer support, product assistance, and more."
```

```python
    "Can I return a product?": "Yes, you can return products within 30 days of purchase.",
    "What is the status of my order?": "Please provide your order number, and I can check the status for you.",
    "Do you offer international shipping?": "Yes, we do offer international shipping to selected countries.",
    "What payment methods do you accept?": "We accept credit cards, PayPal, and other popular payment methods.",
    "How can I track my order?": "You can track your order by logging into your account and visiting the order history page."
    "How can I update my profile information?": "You can update your profile information by visiting your account settings.",
    "What is your refund policy?": "Our refund policy allows refunds within 30 days of purchase for eligible items.",
    "How can I unsubscribe from your emails?": "To unsubscribe, click the unsubscribe link at the bottom of any email you've
    "Can I change my shipping address?": "Yes, you can change your shipping address before your order is shipped.",
    "What do I do if I receive a damaged item?": "Please contact our support team immediately, and we will assist you with th
    "Do you have a loyalty program?": "Yes, we offer a loyalty program for repeat customers. You can sign up on our website."
    "How do I contact customer service?": "You can contact customer service through our website or by emailing support@exampl
    "Can I speak to a human representative?": "If you need to speak to a human representative, please contact our support tea
    "How do I apply for a job at your company?": "You can apply for job openings through our careers page.",
    "Is there a mobile app for your services?": "Yes, we have a mobile app available for both iOS and Android.",
    # Add more questions and answers up to 100...
}


# Preprocess text
def preprocess(text):
    text = text.lower().translate(str.maketrans('', '', string.punctuation))
    words = word_tokenize(text)
    words = [word for word in words if word not in stopwords.words('english')]
    return " ".join(words)


# Chatbot function
def chatbot(question):
    processed_q = preprocess(question)
    for q in faqs.keys():
        if preprocess(q) in processed_q:
            return faqs[q]
    return "I'm sorry, I don't have an answer for that."


# Example usage
while True:
    user_input = input("You: ")
    if user_input.lower() == "exit":
        break
```

```
    print("Bot:", chatbot(user_input))
```

```
[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data]    Package punkt is already up-to-date!
[nltk_data] Downloading package wordnet to /root/nltk_data...
[nltk_data]    Package wordnet is already up-to-date!
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data]    Package stopwords is already up-to-date!
[nltk_data] Downloading package averaged_perceptron_tagger to
[nltk_data]      /root/nltk_data...
[nltk_data]    Package averaged_perceptron_tagger is already up-to-
[nltk_data]        date!
You: what is your name?
Bot: I am an FAQ chatbot!
You: exit
```