```
!pip install langchain groq langchain-community faiss-cpu
```

Requirement already satisfied: langchain in /usr/local/lib/python3.11/dist-packages (0.3.25)
Requirement already satisfied: groq in /usr/local/lib/python3.11/dist-packages (0.25.0)
Requirement already satisfied: langchain-community in /usr/local/lib/python3.11/dist-packages (0.3.24)
Requirement already satisfied: faiss-cpu in /usr/local/lib/python3.11/dist-packages (1.11.0)
Requirement already satisfied: langchain-core<1.0.0,>=0.3.58 in /usr/local/lib/python3.11/dist-packages (from langchain) (0.3.59)
Requirement already satisfied: langchain-text-splitters<1.0.0,>=0.3.8 in /usr/local/lib/python3.11/dist-packages (from langchain) (0.3.8
Requirement already satisfied: langsmith<0.4,>=0.1.17 in /usr/local/lib/python3.11/dist-packages (from langchain) (0.3.42)
Requirement already satisfied: pydantic<3.0.0,>=2.7.4 in /usr/local/lib/python3.11/dist-packages (from langchain) (2.11.4)
Requirement already satisfied: SQLAlchemy<3,>=1.4 in /usr/local/lib/python3.11/dist-packages (from langchain) (2.0.40)
Requirement already satisfied: requests<3,>=2 in /usr/local/lib/python3.11/dist-packages (from langchain) (2.32.3)
Requirement already satisfied: PyYAML>=5.3 in /usr/local/lib/python3.11/dist-packages (from langchain) (6.0.2)
Requirement already satisfied: anyio<5,>=3.5.0 in /usr/local/lib/python3.11/dist-packages (from groq) (4.9.0)
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Requirement already satisfied: typing-extensions<5,>=4.10 in /usr/local/lib/python3.11/dist-packages (from groq) (4.13.2)
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Requirement already satisfied: aiohappyeyeballs>=2.3.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchair
Requirement already satisfied: aiosignal>=1.1.2 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-commur
Requirement already satisfied: attrs>=17.3.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community
Requirement already satisfied: frozenlist>=1.1.1 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-commu
Requirement already satisfied: multidict<7.0,>=4.5 in /usr/local/lib/python3.11/dist-packages (from aiohttp<4.0.0,>=3.8.3->langchain-com
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Requirement already satisfied: typing-inspect<1,>=0.4.0 in /usr/local/lib/python3.11/dist-packages (from dataclasses-json<0.7,>=0.5.7->1
Requirement already satisfied: certifi in /usr/local/lib/python3.11/dist-packages (from httpx<1,>=0.23.0->groq) (2025.4.26)
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Requirement already satisfied: jsonpatch<2.0,>=1.33 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.58->lang
Requirement already satisfied: orjson<4.0.0,>=3.9.14 in /usr/local/lib/python3.11/dist-packages (from langsmith<0.4,>=0.1.17->langchain)
Requirement already satisfied: requests-toolbelt<2.0.0,>=1.0.0 in /usr/local/lib/python3.11/dist-packages (from langsmith<0.4,>=0.1.17->
Requirement already satisfied: zstandard<0.24.0,>=0.23.0 in /usr/local/lib/python3.11/dist-packages (from langsmith<0.4,>=0.1.17->langch
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3.0.0,>=2.7.4->langchair
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Requirement already satisfied: python-dotenv>=0.21.0 in /usr/local/lib/python3.11/dist-packages (from pydantic-settings<3.0.0,>=2.4.0->1
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langchain) (3.4
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Requirement already satisfied: jsonpointer>=1.9 in /usr/local/lib/python3.11/dist-packages (from jsonpatch<2.0,>=1.33->langchain-core<1.
Requirement already satisfied: mypy-extensions>=0.3.0 in /usr/local/lib/python3.11/dist-packages (from typing-inspect<1,>=0.4.0->datacla

```
!pip install -q streamlit
```

```
!pip install langchain_groq openai faiss-cpu
```

Requirement already satisfied: langchain_groq in /usr/local/lib/python3.11/dist-packages (0.3.2)
Requirement already satisfied: openai in /usr/local/lib/python3.11/dist-packages (1.78.1)
Requirement already satisfied: faiss-cpu in /usr/local/lib/python3.11/dist-packages (1.11.0)
Requirement already satisfied: langchain-core<1.0.0,>=0.3.49 in /usr/local/lib/python3.11/dist-packages (from langchain_groq) (0.3.59)
Requirement already satisfied: groq<1,>=0.4.1 in /usr/local/lib/python3.11/dist-packages (from langchain_groq) (0.25.0)
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Requirement already satisfied: langsmith<0.4,>=0.1.125 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.49->1
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Requirement already satisfied: PyYAML>=5.3 in /usr/local/lib/python3.11/dist-packages (from langchain-core<1.0.0,>=0.3.49->langchain_grc
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3,>=1.9.0->openai) (0.7.

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Requirement already satisfied: requests<3,>=2 in /usr/local/lib/python3.11/dist-packages (from langsmith<0.4,>=0.1.125->langchain-core<1
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Requirement already satisfied: zstandard<0.24.0,>=0.23.0 in /usr/local/lib/python3.11/dist-packages (from langsmith<0.4,>=0.1.125->langc
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langsmith<0.4,>
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests<3,>=2->langsmith<0.4,>=0.1.1
```

```python
import os
os.environ["GROQ_API_KEY"] = "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"
```

```python
from langchain.document_loaders import TextLoader
from langchain.text_splitter import CharacterTextSplitter

loader = TextLoader("company_document.txt")
documents = loader.load()

text_splitter = CharacterTextSplitter(chunk_size=500, chunk_overlap=50)
docs = text_splitter.split_documents(documents)
```

```python
from langchain.text_splitter import CharacterTextSplitter

text_splitter = CharacterTextSplitter(
    chunk_size=2000,
    chunk_overlap=100
)

chunks = text_splitter.split_documents(documents)

for i, chunk in enumerate(chunks):
    chunk.metadata["page"] = i + 1
```

```python
from langchain.embeddings import HuggingFaceEmbeddings
from langchain.vectorstores import FAISS

embeddings = HuggingFaceEmbeddings()

vectorstore = FAISS.from_documents(docs, embeddings)
```

```
<ipython-input-20-a9459728fc91>:4: LangChainDeprecationWarning: Default values for HuggingFaceEmbeddings.model_name were deprecated in L
  embeddings = HuggingFaceEmbeddings()
```

```python
from langchain_groq import ChatGroq
from langchain.chains import RetrievalQA

llm = ChatGroq(
    model_name="llama3-8b-8192",
    temperature=0
)

qa_chain = RetrievalQA.from_chain_type(
    llm=llm,
    chain_type="stuff",
    retriever=vectorstore.as_retriever()
)
```

```python
def get_retriever_for_page(page_number):
    page_docs = [doc for doc in chunks if doc.metadata.get("page") == page_number]
    if not page_docs:
        raise ValueError(f"Page {page_number} not found.")
    return FAISS.from_documents(page_docs, embeddings).as_retriever()
```

```python
from langchain.chat_models import ChatOpenAI
from langchain.chains import RetrievalQA

llm = ChatOpenAI(
    model_name="llama3-8b-8192",
    temperature=0,
    openai_api_base="https://api.groq.com/openai/v1",
    openai_api_key=os.environ["GROQ_API_KEY"]
)
```

```
<ipython-input-32-bdfd49335060>:4: LangChainDeprecationWarning: The class `ChatOpenAI` was deprecated in LangChain 0.0.10 and will be re
    llm = ChatOpenAI(
```

```python
questions = [
    "What are the services offered?",
    "What incidents do the insurance policy cover?",
    "What do the sustainability commitments include?",
    "What law is applied to the current scenario?",
    "Can you summarise the document?",
    "What services does the company offer?",
    "Which industries are mentioned in the document?",
    "What is 'Build Your Own Brain'?",
    "How is AI applied in healthcare according to the document?",
    "List the features supported for retail and e-commerce.",
    "Summarise the content in page 5"
]

for question in questions:
    print(f"Q: {question}")
    answer = qa_chain.run(question)
    print(f"A: {answer}\n")
```

```
Q: What are the services offered?
A: Based on the provided context, it appears that the services offered are related to a QA bot and a Streamlit app. The QA bot is likely

Q: What incidents do the insurance policy cover?
A: I don't have enough information to answer that question. The provided context only includes a suggested folder structure for a projec

Q: What do the sustainability commitments include?
A: I don't know. The provided context does not mention sustainability commitments. It appears to be related to a project or application

Q: What law is applied to the current scenario?
A: I don't know. The provided context does not mention any specific law being applied to the current scenario. It appears to be a projec

Q: Can you summarise the document?
A: Based on the provided context, it appears to be a suggested folder structure for a project. The folder contains several subfolders ar

    * A README file with approach and setup steps
    * A notebooks folder containing a Jupyter notebook (qa_bot.ipynb)
    * An app folder with a Streamlit application (streamlit_app.py)
    * A data folder containing a company document (company_document.txt)
    * A requirements file (requirements.txt) for LLMs and Streamlit

The notes suggest using OpenAI's GPT-3.5/4 or Gemini Pro models, and provide guidelines for document chunking and response generation.

Q: What services does the company offer?
A: Based on the provided context, there is no explicit information about the company's services. The context only provides a suggested f

Q: Which industries are mentioned in the document?
A: The document does not mention any specific industries.

Q: What is 'Build Your Own Brain'?
A: I don't know. The provided context does not mention "Build Your Own Brain". It appears to be a suggested folder structure for a proje

Q: How is AI applied in healthcare according to the document?
A: The document does not mention the application of AI in healthcare. It appears to be a suggested folder structure for a project, likel

Q: List the features supported for retail and e-commerce.
A: I don't know the answer. The provided context does not mention any specific features supported for retail and e-commerce. It appears

Q: Summarise the content in page 5
A: I apologize, but there is no page 5 mentioned in the provided context. The context only describes a suggested folder structure for a
```