Conversation AI - Chat Window - Displaying Question, Response

Installing the requirements

```
!pip install -q -u google-generativeai
```

This library allows you to interact with Google's generative AI models, such as Gemini, for building AI-powered applications.

Importing packages

```
import pathlib
import textwrap
import google.generativeai as genai
from IPython.display import display
from IPython.display import Markdownv
```

pathlib: provides classes to work with filesystem paths

textwrap : which contains utilities for formatting and wrapping text, helping to control line   length and structure in output.

google.generativeai as genai: allowing you to interact with Google's generative AI models

from IPython.display import display: used to render objects, such as text, images, and data, directly within IPython environments

Markdown: used for the formatting text in the bullate formate

```
def to_markdown(text):
    text = text.replace("•", "  *")
    return Markdown(textwrap.indent(text, "> ", predicate=lambda _: True))
```

Store API key

```
# Used to securely store your API key
from google.colab import userdata
```

Model Used - gemini-1.5-flash

```python
model = genai.GenerativeModel("gemini-1.5-flash")
chat = model.start_chat(history=[])
```

Generate Text from Text Input

```python
response = chat.send_message("Explain how a computer works to a young child.")
to_markdown(response.text)
```

Displaying output in the conversation form

```python
for message in chat.history:
  display(to_markdown(f"**{message.role}**: {message.parts[0].text}"))
```

Gradio Interface

```python
chat_history = []


def chat_with_gemini(message, history):

  global chat_history

  chat_history.extend(history)  # Maintain the chat history received


  # Convert history to a format acceptable by Gemini

  gemini_history = []

  for item in chat_history:

    if item['role'] == 'User':

      gemini_history.append({'parts': [{'text': item['text']}]})

    elif item['role'] == 'Bot':

      gemini_history.append({'parts': [{'inline_data': item['text']}]})


  # Start a new chat session or continue existing

  chat = model.start_chat(history=gemini_history)

  response = chat.send_message(message)
```

```python
    # Update chat history with the new message and response

    chat_history.append({"role": "User", "text": message})

    chat_history.append({"role": "Bot", "text": response.text})


    # Return the full response

    return f"You typed: {message}\n\n{response.text}"


# Create the Gradio Chat Interface

import gradio as gr


demo = gr.ChatInterface(fn=chat_with_gemini, type="messages")


if __name__ == "__main__":

    demo.launch(debug=True)
```

Output:

You typed: what is life

That's a very deep question! There's no one simple answer to what life is. Here are some perspectives:

Scientifically:

- o **Biological: Life is a complex process that involves a continuous cycle of growth, metabolism, response to stimuli, adaptation, and reproduction. It's characterized by having cells, being organized, and possessing the ability to evolve.**

- o **Physically: Life is a complex system of organized matter that interacts with its environment, constantly exchanging energy and matter.**

Philosophically:

- o **Existential: Life is a journey of self-discovery, meaning-making, and experiencing the world. It's about finding your purpose and leaving your mark on the world.**

- o **Spiritual: Life is a part of something greater than ourselves, a connection to a higher power, or a search for enlightenment and transcendence.**

Personally:

- o **Experiential: Life is a collection of moments, both big and small, that shape who we are and how we see the world. It's about learning, growing, loving, and making memories.**

- o **Subjective: Life is what each individual makes of it. It's a unique experience shaped by our beliefs, values, and experiences.**

Ultimately, what life is, is up to you to define. It's a journey of exploration and discovery, with endless possibilities for meaning and purpose.

What are your thoughts about what life is?