**Lab Exercise 6- Generative AI with Azure OpenAI in Google Colab**

**Objective:**

To use Azure OpenAI to generate text based on user input directly within Google Colab.

**Prerequisites:**

* An Azure account with access to the OpenAI Service.
* An Azure OpenAI resource set up.
* API key and endpoint URL for your Azure OpenAI resource.

**Steps:**

1. **Set Up Your Azure OpenAI Resource**:
   * Follow the steps in the Azure Portal to create an OpenAI resource and obtain your API key and endpoint.
2. **Open Google Colab**:
   * Go to Google Colab.
3. **Install Required Libraries**:
   * In a new Colab notebook, run the following code cell to install the requests library:

pip install requests

1. **Set Up API Key and Endpoint**:
   * In a new code cell, set up your API key and endpoint. Replace the placeholder values with your actual Azure OpenAI details:

import requests

import json

# Replace with your Azure OpenAI endpoint and API key

endpoint = "https://<your-resource-name>.openai.azure.com/openai/deployments/<your-deployment-name>/completions?api-version=2023-05-15"

api\_key = "<your-api-key>"

headers = {

"Content-Type": "application/json",

"api-key": api\_key

}

1. **Create a Function to Generate Text**:
   * Add the following function to generate text based on user input:

def generate\_text(prompt):

data = {

"prompt": prompt,

"max\_tokens": 100,

"temperature": 0.7

}

response = requests.post(endpoint, headers=headers, json=data)

if response.status\_code == 200:

response\_data = response.json()

return response\_data["choices"][0]["text"].strip()

else:

return f"Error: {response.status\_code} - {response.text}"

1. **Get User Input and Generate Text**:
   * In the next code cell, prompt the user for input and display the generated output:

user\_input = input("Enter your prompt: ")

generated\_output = generate\_text(user\_input)

print("Generated Output:", generated\_output)

1. **Run the Notebook**:
   * Run each cell in your notebook sequentially.
   * When prompted, enter a text prompt, and observe the generated text output from Azure OpenAI.

**Example Input and Output:**

* **Input**: "Once upon a time in a magical forest..."
* **Output**: "there lived a wise old owl who knew the secrets of the trees..."

**Conclusion:**

This simple lab exercise demonstrates how to interact with Azure OpenAI using Google Colab. You can modify the parameters and prompts to explore the model's capabilities further. If you have any questions or need further assistance, feel free to ask!