SNAP SUMMARY

1. Overview

A web application that allows users to paste any large text and receive a summarized version using a powerful LLM (Large Language Model) through a simple HTML/CSS frontend and Flask backend.

2. LLM Model Used

- **Model Name**: Falconsai/text_summarization
- **Source**: Hugging Face
- **Type**: Pre-trained Seq2Seq (Sequence-to-Sequence) model optimized for abstractive summarization.
- **Why this model:**
    - Lightweight and easy to run on CPU
    - Produces high-quality, human-readable summaries
    - Open-source and easy to integrate

3. **Code Explanation**

```
from flask import Flask, render_template, request, jsonify

from transformers import pipeline

from flask_cors import CORS



app = Flask(__name__)                    # Create Flask app

CORS(app)                                # Allow cross-origin requests



summarizer = pipeline("summarization", model="Falconsai/text_summarization")

# Load the summarization pipeline with LLM



@app.route('/')

def home():

    return render_template('index.html')    # Load the frontend HTML page



@app.route('/summarize', methods=['POST'])

def summarize():

    data = request.get_json()

    input_text = data['text']              # Receive text from frontend

    result = summarizer(input_text, max_length=130, min_length=30, do_sample=False)
    return jsonify({'summary': result[0]['summary_text']})

    # Return summary in JSON format


if __name__ == '__main__':

    app.run(debug=True)
```

What is do_sample=False in text generation?

In the pipeline() method from Hugging Face Transformers, this parameter decides whether the model should:

- **Randomly generate** different outputs each time (do_sample=True) — introduces creativity.
- **Generate the most probable output** deterministically (do_sample=False) — gives the same output every time.

4. Common Errors & Fixes

□ Error	□ Solution
TemplateNotFound: index.html	Ensure index.html is in templates/ folder
Model loading errors	Use a stable internet connection to download once
CORS issues	Make sure flask-cors is installed and CORS(app) is used
IncompleteRead or Connection broken	Re-run after stable internet or delete .cache/huggingface folder and retry

5. **How to Run This Application From Scratch**

□ Step 1: Install Python & Libraries

```
pip install flask transformers flask-cors torch
```

□ Step 2: Folder Structure

```
summerize_app/
├── app.py
├── templates/
│   └── index.html
├── static/
│   └── style.css
```

▶□ Step 3: Run Flask Server

```
python app.py
```

□ Step 4: Access the App

Open your browser and go to:
http://127.0.0.1:5000

6. How to Deploy on GitHub

1. **Create Repository**

   - Go to https://github.com
   - Click on **“+”** → **“New repository”**
   - Enter a name, e.g., summerize_app
   - Keep it **Public** or **Private** as you prefer
   - Do **NOT** check "Initialize with README"
   - Click **Create repository**

2. **Connect Local Project to GitHub**

   ```
   git init

   git add .

   git commit -m "Initial commit"

   git remote add origin https://github.com/your-username/repository_name.git

   git push -u origin master
   ```