AI/ML ASSIGNMENT FOR GROWSPACE M2M

📌 Task 1: License Plate Detection (Without Deep Learning)

📋 Problem:

You are given an input image (input.jpg) containing one or more vehicles. Your goal is to detect license plate-like regions using only classical image processing (no pretrained models like YOLO, Haar, or OpenCV classifiers).

✅ Requirements:

1. Convert the image to grayscale.
2. Extract regions that are likely to be license plates:
   a. Rectangular
   b. High-contrast edges
   c. Aspect ratio between 2:1 and 5:1
3. Draw bounding boxes around such regions.
4. Save the output image as output.jpg.

🔧 Constraints:

1. Do not use any pretrained model.
2. Use only standard image processing libraries: OpenCV, NumPy.
3. Code must be modular and readable.

📂 Input:

input.jpg