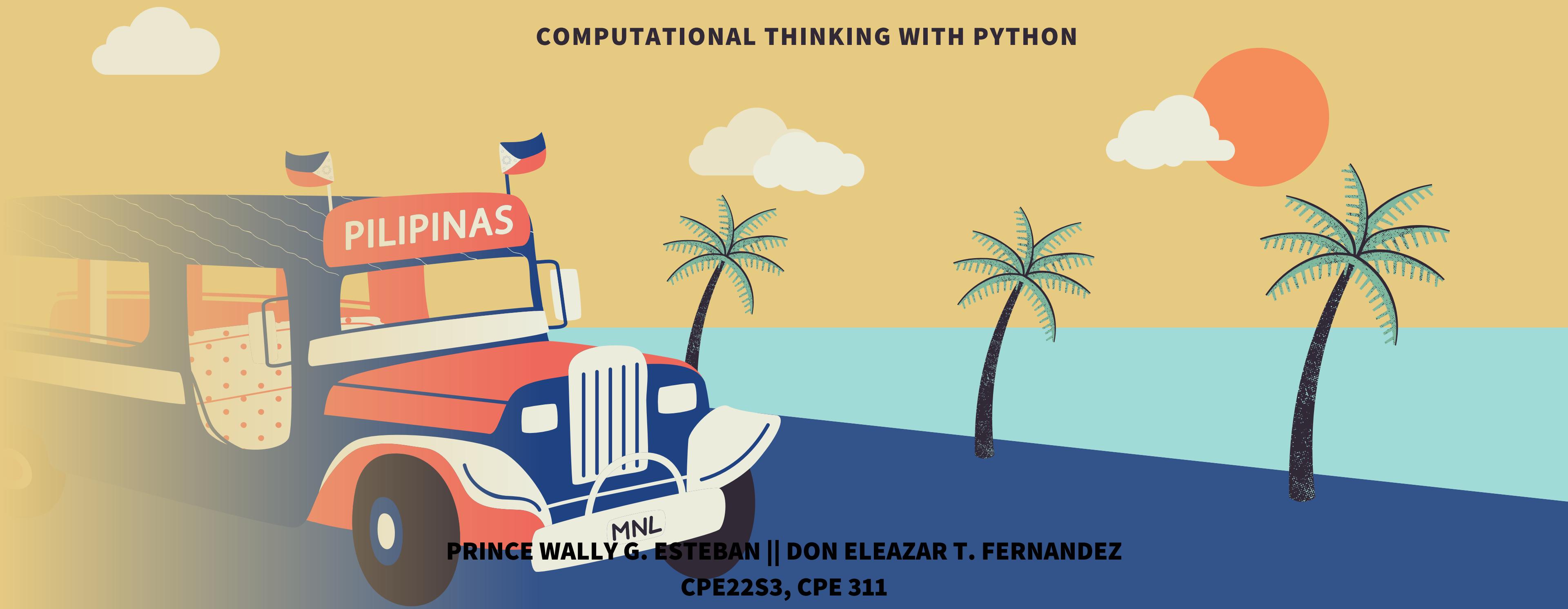


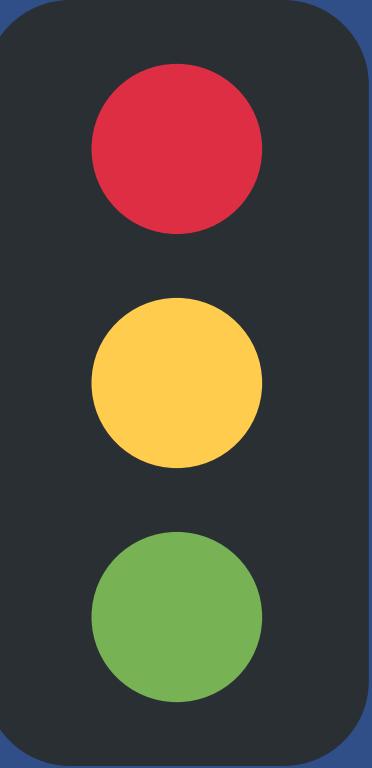
# TRAFFIC OPTIMIZATION

COMPUTATIONAL THINKING WITH PYTHON



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# The Problem



In Metro Manila, the road traffic is the most evident issue when it comes to transportation.

# Iteration 1

How can we effectively reduce road traffic?

## Decomposition:

(How would you break down your problem into sub-problems?)

- The road rush hour.
- The road volume.



# Pattern Recognition:

- The main road.
- The seasonal (events, holidays, and seasons) travel.
- The peak hours of travel.



# Abstraction:

- Relevant: The most congested road.
- Irrelevant: The roads other than the congested road.



# Iteration 2

**How can we determine the optimal way to utilize the smart traffic light at the moment?**

## Decomposition:

(How would you break down your problem into sub-problems?)

**- The road congestion**



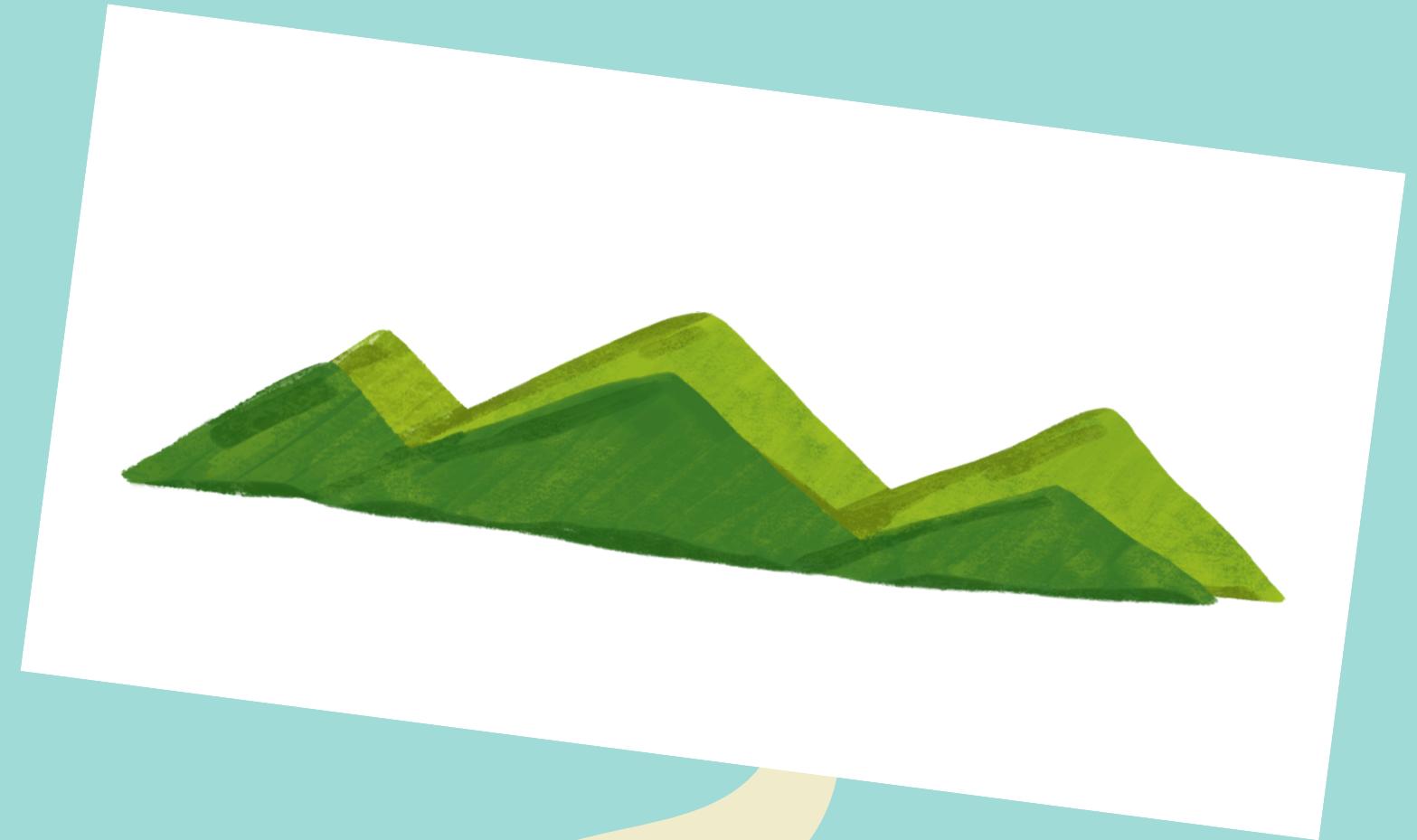
# Pattern Recognition:

- The pace of vehicles.
- Heaviness of traffic congestion



# Abstraction:

- Relevant: Junction Topography  
Traffic light countdown
- Irrelevant: Type of Vehicles  
Vehicle IDs

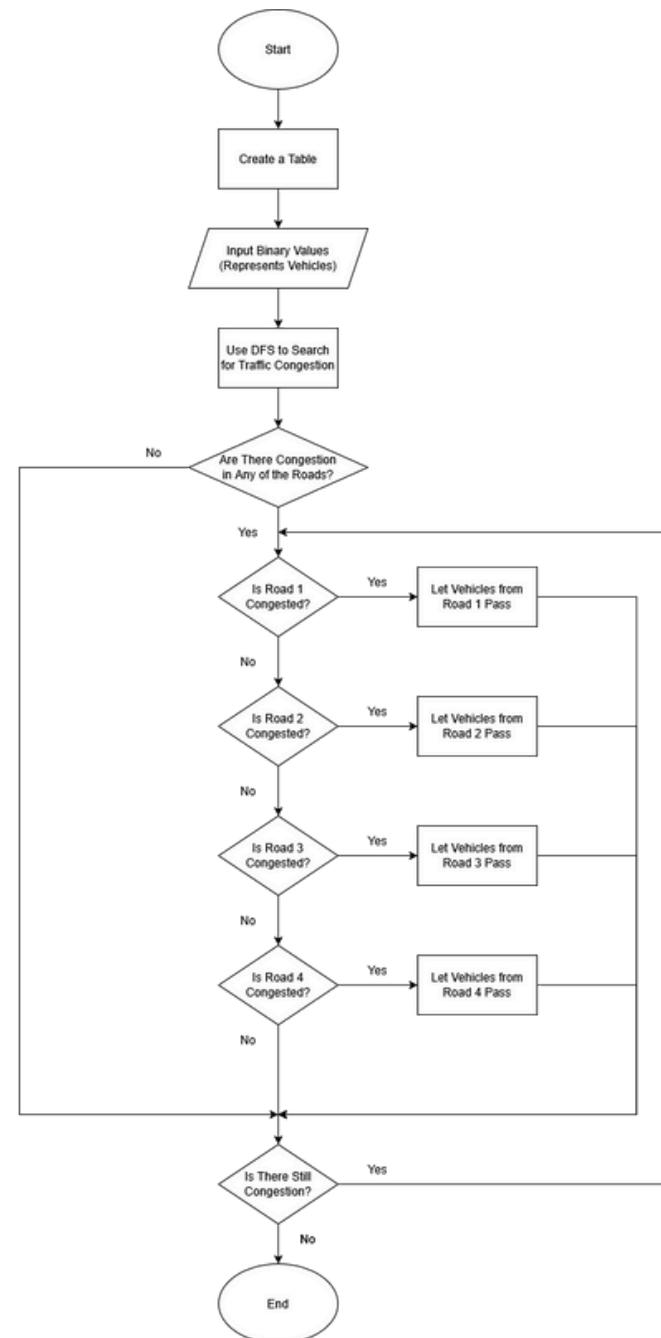


# Algorithm:

- The DFS for checking traffic congestion.
- The Bottom-Up (Tabulation) for storing values.



# The Flowchart:



Thank You.