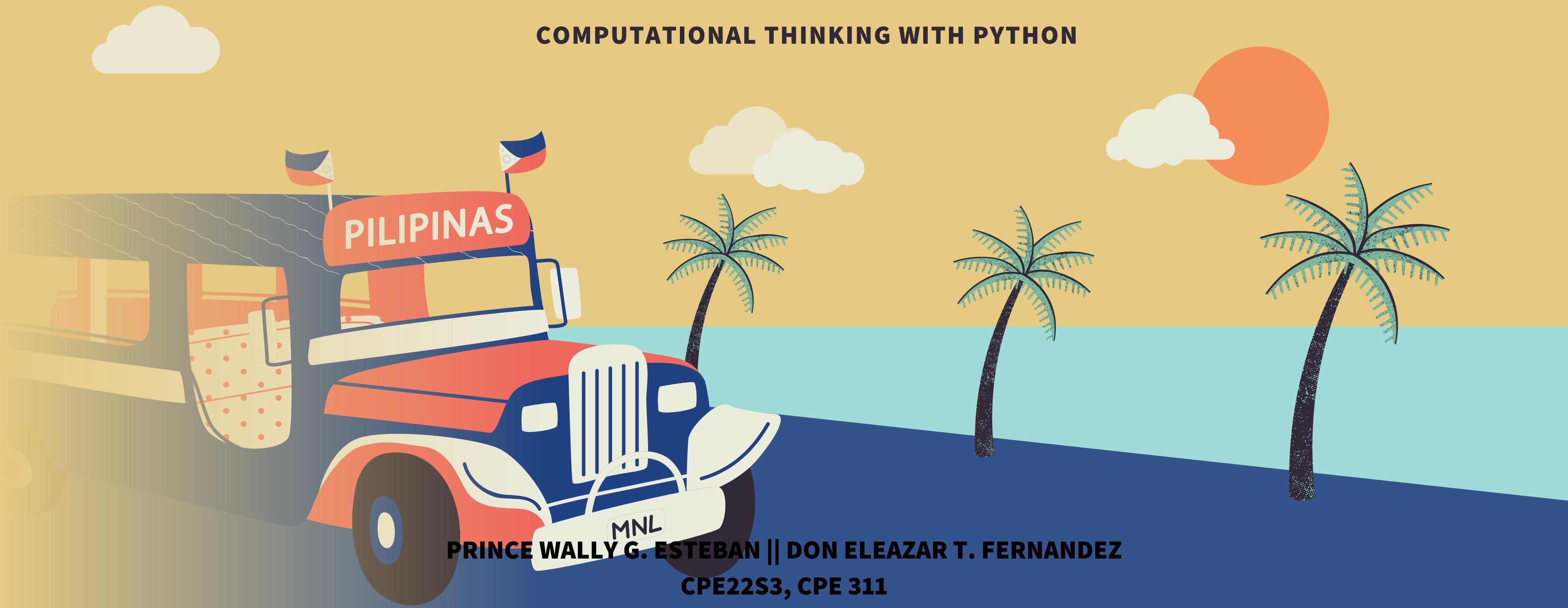


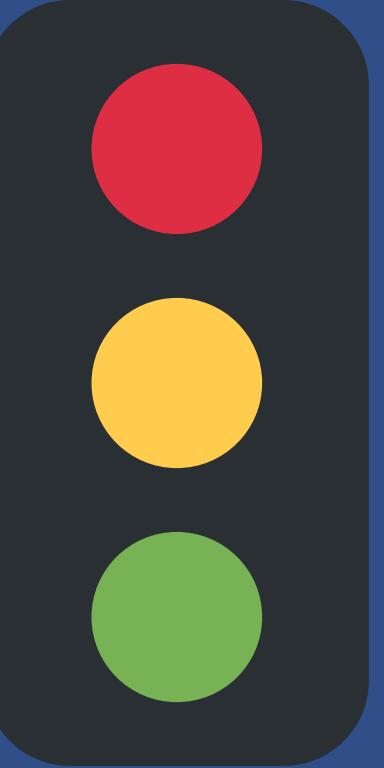
TRAFFIC OPTIMIZATION

COMPUTATIONAL THINKING WITH PYTHON



PRINCE WALLY G. ESTEBAN || DON ELEAZAR T. FERNANDEZ
CPE22S3, CPE 311

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



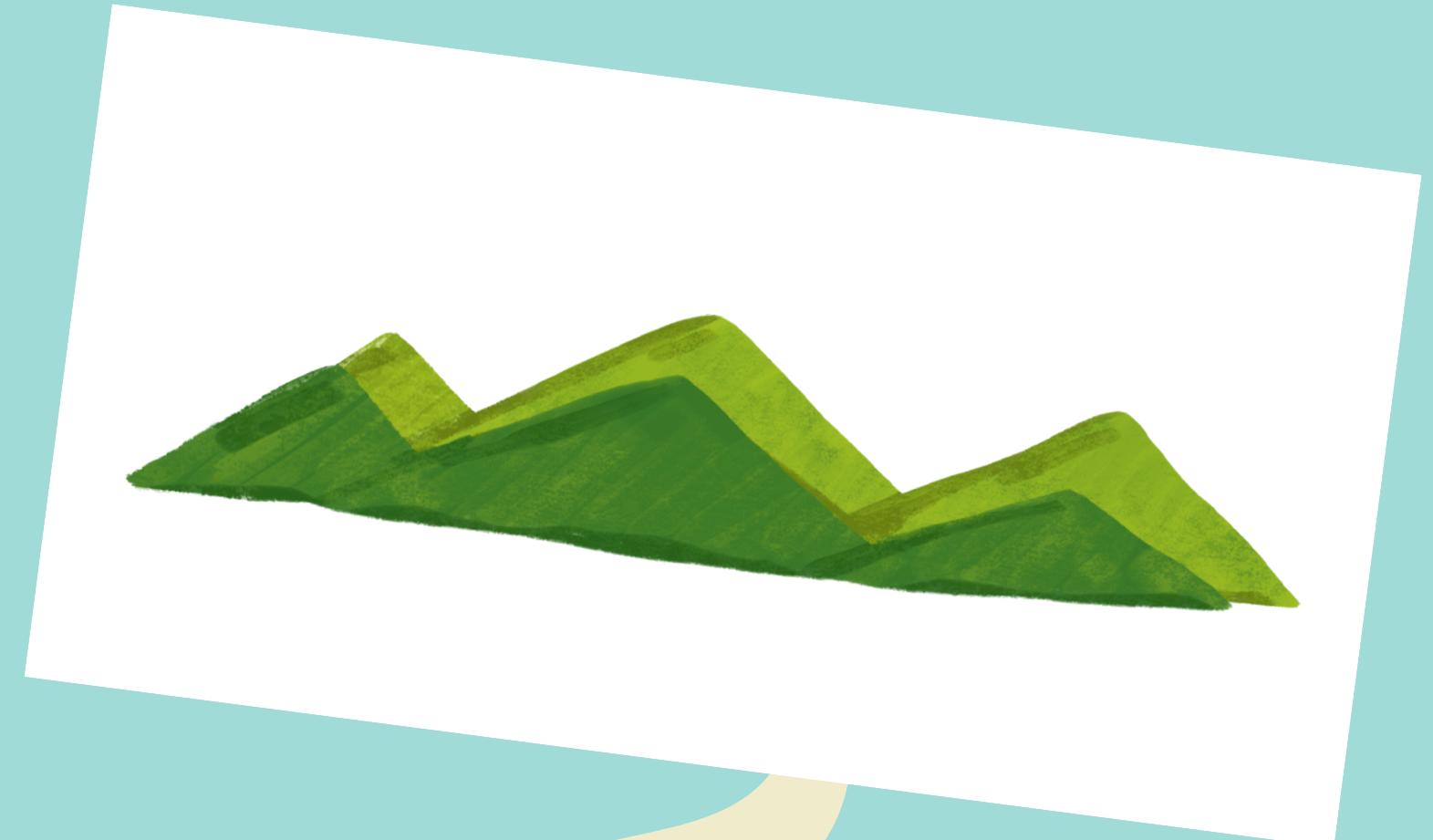
Pattern Recognition:

- The pace of vehicles.
- Heaviness of traffic congestion



Abstraction:

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

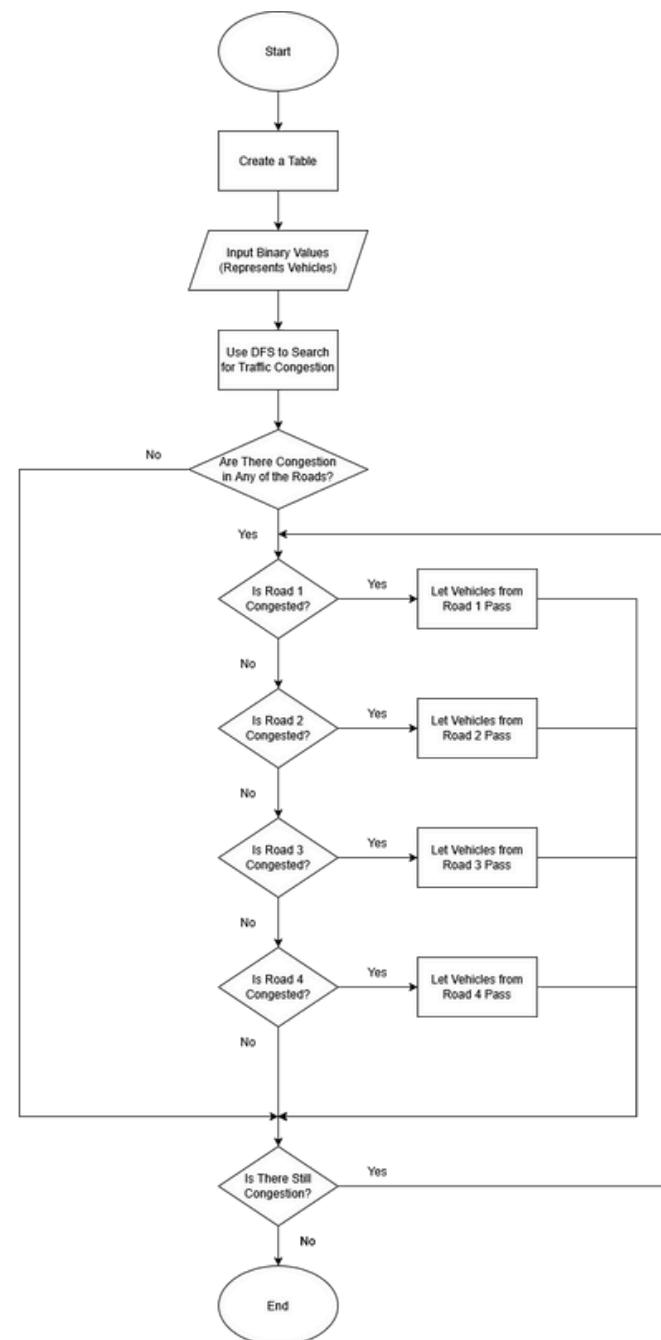


Algorithm:

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



The Flowchart:



Thank You.