**Activity 10 – Advance Data Structures**

**Activity 10: City Traffic Analyzer**

**Problem Statement**

You’re a traffic analyst monitoring city roads and vehicle speeds to enforce limits and optimize flow. Write a Python program named **python\_activity10** that:

1. Starts with:
   * A **list** of main roads: ["Roxas Avenue", "Arnaldo Boulevard", "Fuentes Drive"].
   * A **tuple** of speed limits (in km/h, matching order): (80, 50, 60).
   * An empty **set** for unique vehicle license plates spotted.
   * An empty **dictionary** to track total fines per road (road: Peso).
2. Asks the user how many vehicle reports to process (whole number, 1-5).
3. Use a **loop** to:
   * For each report, ask for a road name, license plate (string), and speed (whole number km/h).
   * Add the license plate to the set.
   * If the road is in the list, check its speed limit; if not, add it to the list with a default limit of 70 km/h and update the tuple with this limit.
   * If speed exceeds the limit by 10 km/h or more, calculate a fine ($5 per km/h over the limit) and add it to the dictionary for that road; if speed is below 20 km/h, flag it as a "slow driver" but no fine.
4. After all reports:
   * Use a **loop** to find the road with the highest fine total from the dictionary.
   * If the number of unique plates is less than the number of roads, remove the road with the lowest fines from the list to focus monitoring efforts.
5. Displays:
   * Updated road list, labeled "Active Roads".
   * Updated speed limits tuple, labeled "Speed Limits".
   * Fines dictionary, labeled "Fine Totals".
   * Road with most fines, labeled "Worst Road".
   * Number of unique vehicles, labeled "Unique Vehicles".  
     Test with: 3 reports—("Highway 1", "ABC123", 95), ("River Rd", "XYZ789", 45), ("Park Ave", "DEF456", 85).