Ramdeobaba University, Nagpur
Department of Computer Science and Engineering
Session: 2025-26

Design and Analysis of Algorithms Lab **III Semester**

PRACTICAL NO. 6

Aim: Construction of Single Source Shortest Path

Problem Statement: Develop a system to optimize the delivery routes for a fleet of vehicles in a metropolitan area. The system should efficiently calculate the shortest paths between multiple pickup and delivery points, taking into account traffic congestion and road conditions.

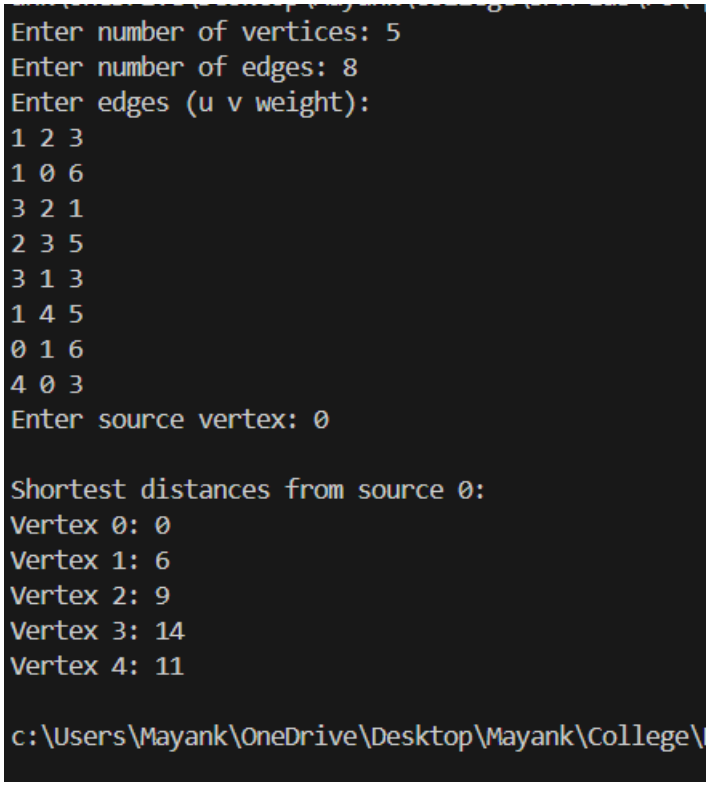
Implement the Bellman-Ford algorithm to find the shortest path from a central depot to each delivery location while considering varying transportation costs and time constraints.

Consider the following criteria for determining connections within the same state in India:

i. Determine the latitude and longitude of addresses within the same city. Select 6 to 8 addresses, with one designated as zero mile, and construct a fully connected graph.

ii. Designate the zero-mile location as the pickup point.

iii. Calculate the shortest paths between the pickup point and delivery points.



github repo-> https://github.com/Mayank3969/DAA_LAB_P5-8