PROLOGUE

FOR ALL ASSIGNMENTS

- **Attach a *prologue* for all assignments.**
- **Use sample *prologue* sheet in the course material, customize it for every assignment.**
- ***Prologue* makes it easy to separate assignments for grading purpose.**

EXERCISE 19

PROBLEM

- Consider the given weighted graph to enter the input distance from node to node.
- Read the weightage input by prompting the user with from node, to node and distance into a weight matrix.
- WEIGHTAGE

0 ⟶ 1 : 25, 1 ⟶ 2 : 65
1 ⟶ 3 : 35, 1 ⟶ 4 : 85
2 ⟶ 5 : 50, 3 ⟶ 2 : 60
3 ⟶ 4 : 40, 4 ⟶ 5 : 120
5 ⟶ 7 : 25, 6 ⟶ 5 : 55
6 ⟶ 7 : 95

- Write a function to compute the shortest path from node 0 to node 7.
- You can use the Dijkstra's algorithm discussed in the chapters.
- In the output, show how you prompt and read the input and print the distance matrix only for the nodes given in the map. Show at each step what is the next node considered in the path to destination.
- Print the total distance from starting node to terminating node giving distance between intermediate nodes.

DELIVERABLES

Write the prolog and fill up all information for this exercise as given in the sample. Submit the source code, input and the output files.

DUE DATES

Assignments are due on the following week after completing the chapter discussion.

Graph