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Inventing Harmonious Future

Institute for Advancing Intelligence, TCG CREST
(TCG Centres for Research and Education in Science and Technology)

Introduction to Computer Programming and Data Structures
Assignment 07

Maximum Marks: **100** Submission Deadline: **2022-Nov-19**
Topic: Linked Lists and Graph Algorithms

Assignment problem # AP0801

Finding shortest path: A weighted directed graph G is given as an adjacency list stored in a file "directed_EdgeList". If the number of vertices is N, given two vertices u and v, find length of the shortest path between them. Print the path too.

- For inputs and outputs, follow #AP0303

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Assignment problem # AP0802
Checking Bipartite-ness: Let $G = (V, E)$ is a graph with $n = |V|$ veritices where v_i is the ith vertix. Given, the edge-list, find if the graph is a bipartite graph or not.

- **Input**:
  1. 1st line: n, the no of vertices
  2. 2nd line onwards, i j, (indicates v_i and v_j are connected)
- **Output**: YES/NO

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Assignment problem # AP0803
Cycle finding: to be updated

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