**Assignment: 4**

1. **Construct and Analyse Task Dependency Graph:**

The given problem is related to a directed graph having a task as a node where tasks have dependencies.

1. Use the “tasks\_dependencies.json” data to construct the graph. The file has details of each task and a list of tasks on which it depends. You need to determine the order in which tasks should be completed. Each task might depend on other tasks, and you need to construct a directed graph based on these dependencies.
2. Construct a function that finds the order of tasks that must be completed before a given task (X).
3. Find the strongly connected components present in the graph.
4. Print all possible topological order.
5. **Twitter Interaction Network for the US Congress**:

This network represents the Twitter interaction network for the 117th United States Congress, both the House of Representatives and Senate. The base data was collected via Twitter’s API; then the empirical transmission probabilities were quantified according to the fraction of times one member retweeted, quoted, tweeted, replied to, or mentioned another member’s tweet.

All the files are given in the “congress\_network” folder. Read the readme file for details.

1. Construct a directed unweighted graph for the given data.
2. Find strongly connected components.
3. Print topological order.