**Social Network Analysis – Fall 2023**

**Assignment - 1**

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**Course:** M.Tech. in C.Tech.

**Part A :**

**\*\* Tool used:** Gephi

**1. Download a Social Network Data from the links given below.**

**My dataset link:** <https://networkrepository.com/SW-1000-3-0d1-trial3.php>

**2. Visualize the graph using 2 different layout:**



**Layout 1**



**Layout 2**

**3. Calculate the Degree Distribution:**

**i. Assign sizes to vertices based on their total degree:**

**4. Filter the network by degree such that only the:**

**i. Bottom 10% of nodes and the connection among them are visible:**



**ii. Top 5% of nodes and the connections among them are visible:**



**5. Find**

**i. All the connected components of the network:**



**ii. The size of the giant component of the network:**



**Part B :**

**\*\* Pyhton libraries Used:** NetworkX, Matplotlib

**Google Colab link:**

<https://colab.research.google.com/drive/1DIbXXP06C3Zev66paK8Xh1qDM-oF9EIj>