# Assignment #1

Issue Date: October 1, 2015,   **Due Date:** 4 October 2015

Submission Mode: In Class, Hand written solution

Description

A company is interested to design workspace for his 6 employees. Before finalization the design company want to study the interaction pattern for different design. For example, in following layout workspace we can see that each employee can interact only to employee sitting on left and right side of him.
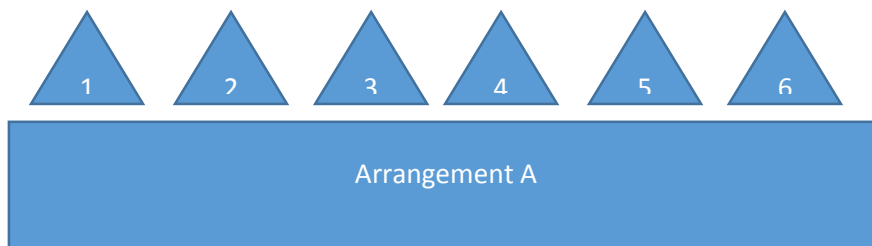
We can represent the above sitting arrangement as network/graph as shown in Figure 1. Here each edge represents that incident nodes are sitting beside to each other. After generating network we can calculate different metrics on this graph such as average path length, degree etc.
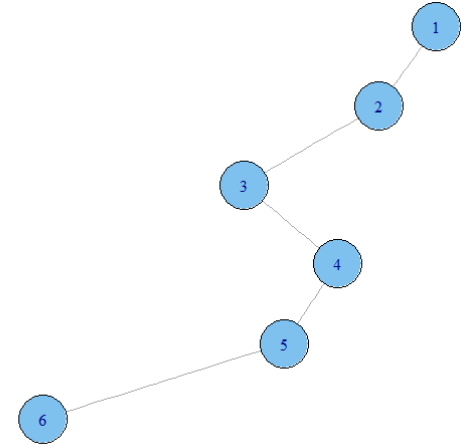
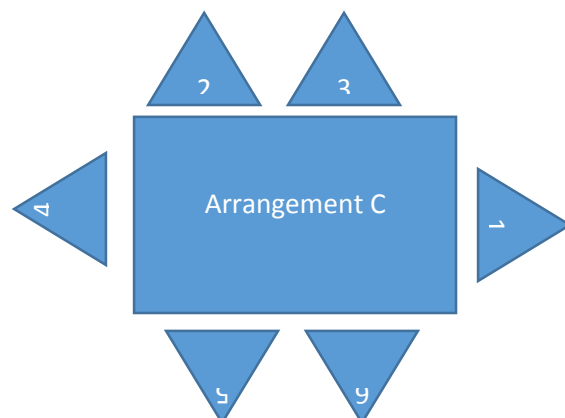There are other possible arrangements as well as few are given below:
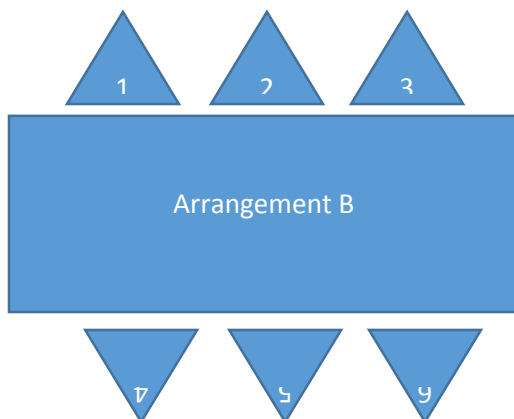

Figure 1: Network of Arrangement A

Your task is:

1. Create graphs for Arrangement B and C (5 Points)
2. Generate Adjacency Matrix for Arrangement A, B, and C (5 Points)
3. Generate Adjacency List for Arrangement A, B, and C (5 Points)
4. Generate Edge List for Arrangement A, B, and C (5 Points)
5. Calculate Average Path Length of Arrangement A, B and C (5 Points)
6. Calculate Average Path Length for node 5 in Arrangement A, B and C (5 Points)
7. Give your comments on which arrangement is most suitable and why? (10 Points)