In class lab 10 - Graphs

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GitHub: https://github.com/Thejas0604/CSE-labs

Section 01

(01)

1 -> {2, 3, 4, 5}

2 -> {1, 3, 6}

3 -> {1, 2}

4 -> {1, 6, 7, 8}

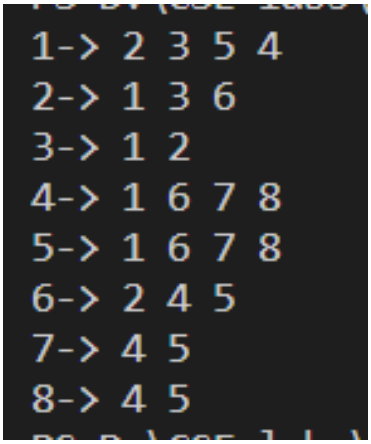
5 -> {1, 6, 7, 8}

6 -> {2, 4, 5}

7 -> {4, 5}

8 -> {4, 5}

(04)



(05)

- We can just delete the code line,

nodes[v-1].neighbours.push_back(u);

- Then it will only add v into the list of u when considering (u,v).

Section 02

- Let's consider the adjacency list for the given matrix:

1 -> {2, 3, 5}

2 -> {1, 3, 6}

3 -> {1, 2}

4 -> {6, 7, 8}

5 -> {1, 6, 7, 8}

6 -> {2, 4, 5}

7 -> {4, 5}

8 -> {4, 5}

As we wanted to connect 1 and 4 in the future let's consider similarity scores between 4 and the nodes that are connected to 1.

$$\text{Sim}(4,2) = \frac{4 \cap 2}{4 \cup 2} = \frac{1}{5} = 0.2$$

$$\text{Sim}(4,3) = \frac{4 \cap 3}{4 \cup 3} = \frac{0}{5} = 0$$

$$\text{Sim}(4,5) = \frac{4 \cap 5}{4 \cup 5} = \frac{3}{4} = 0.75$$

- So we can suggest node 5 to be a friend with node 4 as there is a higher similarity.