**CS2023 - Data Structures and Algorithms**

**In Class Lab Exercise**

Week 10

Index Number: 200105F

GitHub Link: https://github.com/UlinduP/CS2023/tree/main/In%20Class%20Labs/Lab%2010

Section 1 : Implementing Graph ADT

1. [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]

4. A screen shot of a computer program

Description automatically generated with low confidence

5.

If the direction is from “u” to “v” then we are only adding “u” to “v” creating a direct edge and not adding “v” to “u” like done before.

void addEdge(int u, int v){

nodes[u].neighbours.push\_back(v);

}

Section 2 : Working out link prediction

I can suggest Node 5 for Node 4. Node 5 is a neighbor of Node 1. All the neighbors of Node 4 are neighbors of Node 5. Therefore, there is a high probability of Node 4 and Node 5 knowing each other and establishing a connection.