Lab 4

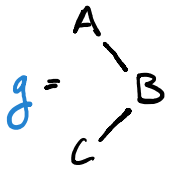
Tuesday, October 8, 2019 8:06 PM

ADJACENCY MATRIX

(Ex.

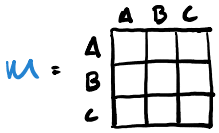
A is friends w/ B. B is friends w/ C.

Thus, assume the UNDIRECTED GRAPH g as:



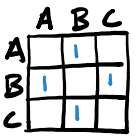
Construct the ADJACENCY MATRIX M.

M = N x N matrix where N = # of people



A ⟷ B
B ⟷ A
B ⟷ C
C ⟷ B

THUS, M[A][B] = 1, M[B][A] = 1, M[B][C] = 1, M[C][B] = 1 ⇒



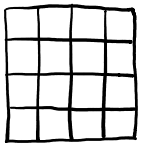
"MIGHT KNOW" PSEUDOCODE

```
int i, j, k

for (i : 0 - N)
    for (j : 0 - N)
        if (i != j AND friend[i][j])
            for (k: 0 - N)
                if (friend[j][k] AND !friend[i][k] AND i != k)
                    new_friend[i][k] = new_friend[k][i] = 1
```

Part I

Adjacency Matrix



N × N

Friend[i][j] = 1
Friend[j][i] = 1

Part II

Adjacency List

A: B
B: A C
C: B

Friend[i].push_back(j)
Friend[j].push_back(i)

You use a "vector<vector<int>>" for both parts!
Part 3 uses a "vector<set<int>>"