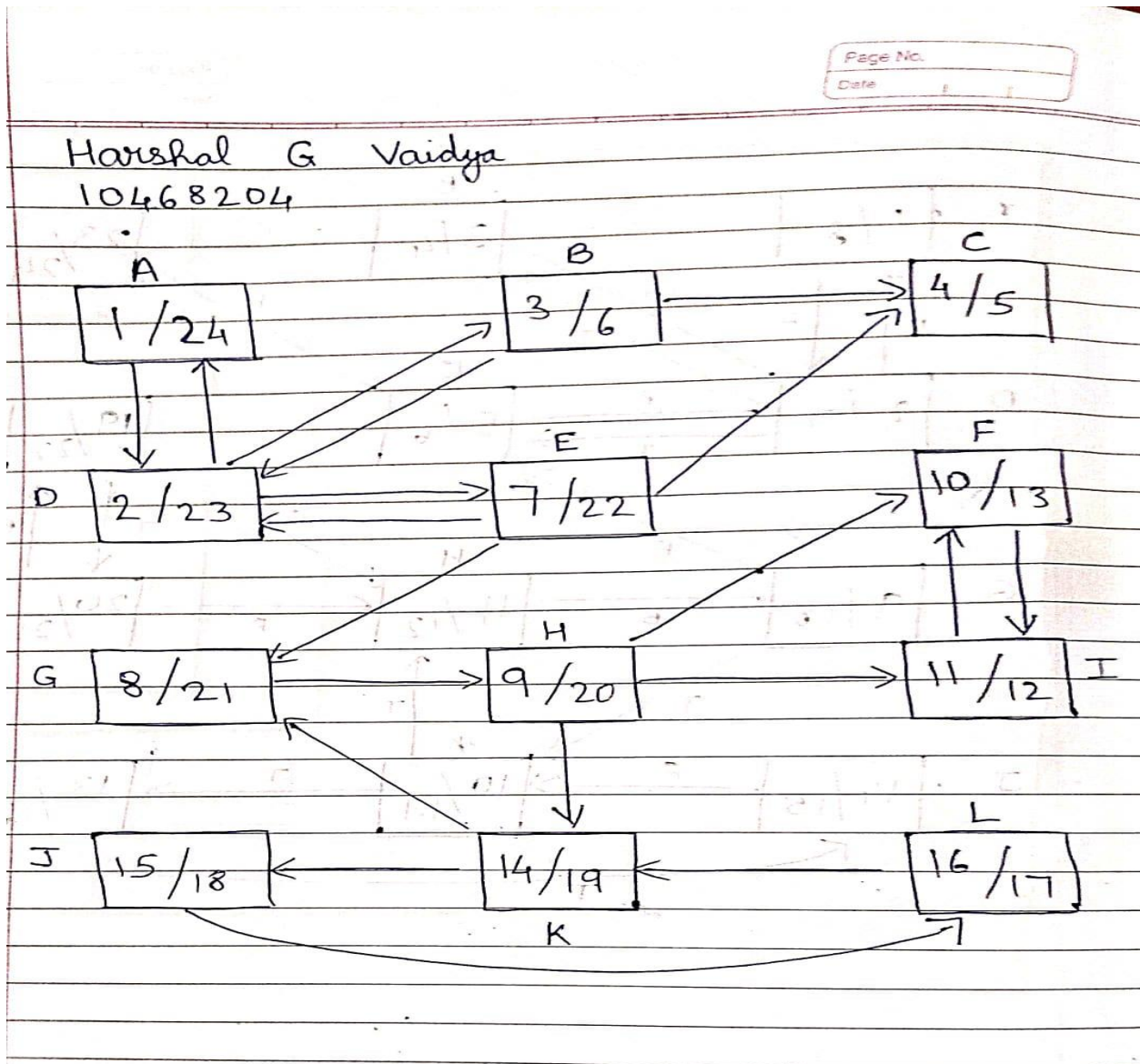# CS590 homework 5 – Graphs exploration (BFS, DFS)

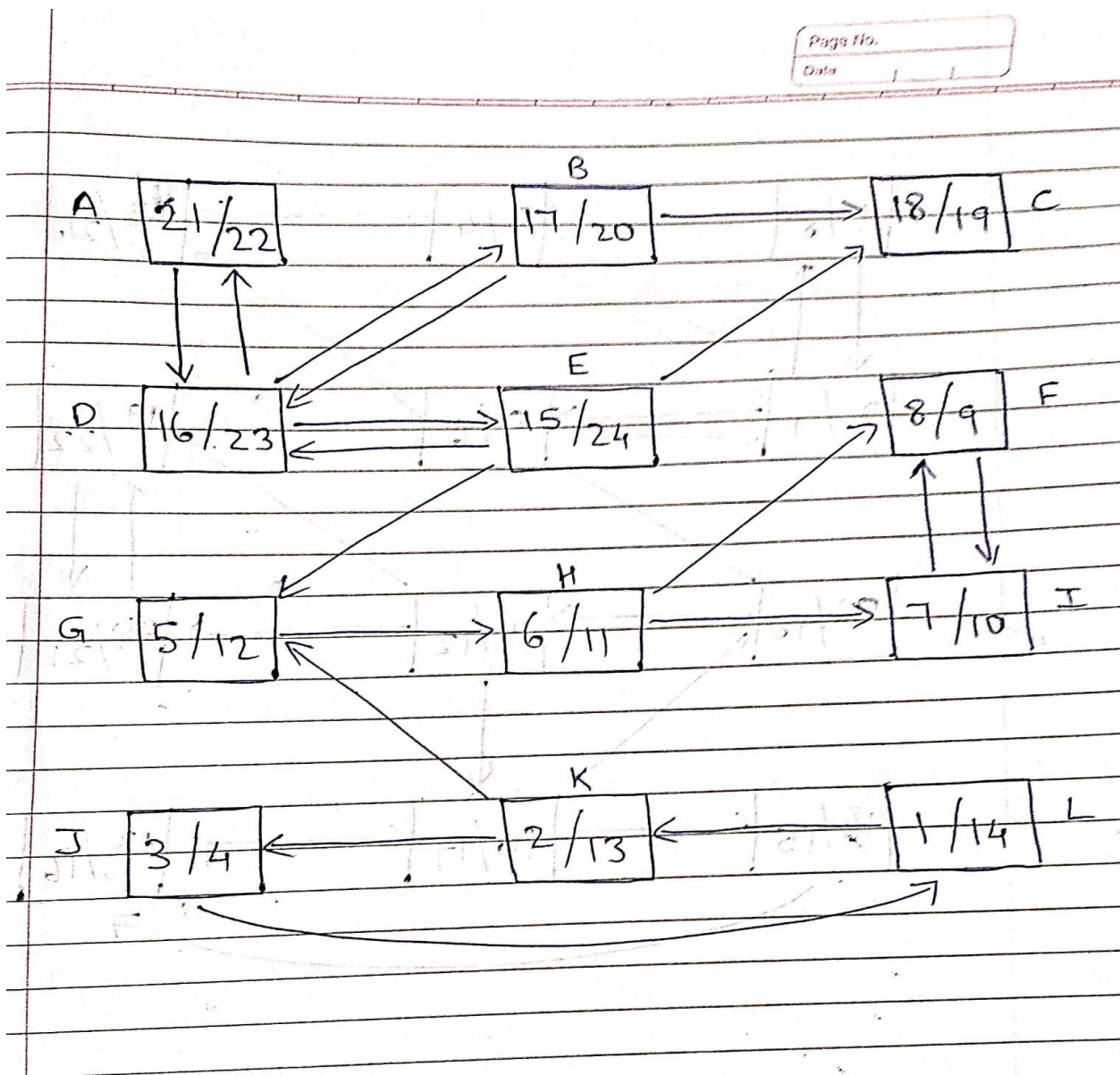**Name: Harshal Vaidya**
CWID – 10468204

Q1.a

Tree – AD, BC, DB, DE, GH, HE, FI, HK, KJ, JL

Back Edge – BD ,DA, ED, IF, KG, LK

Forward Edge – GE, EC
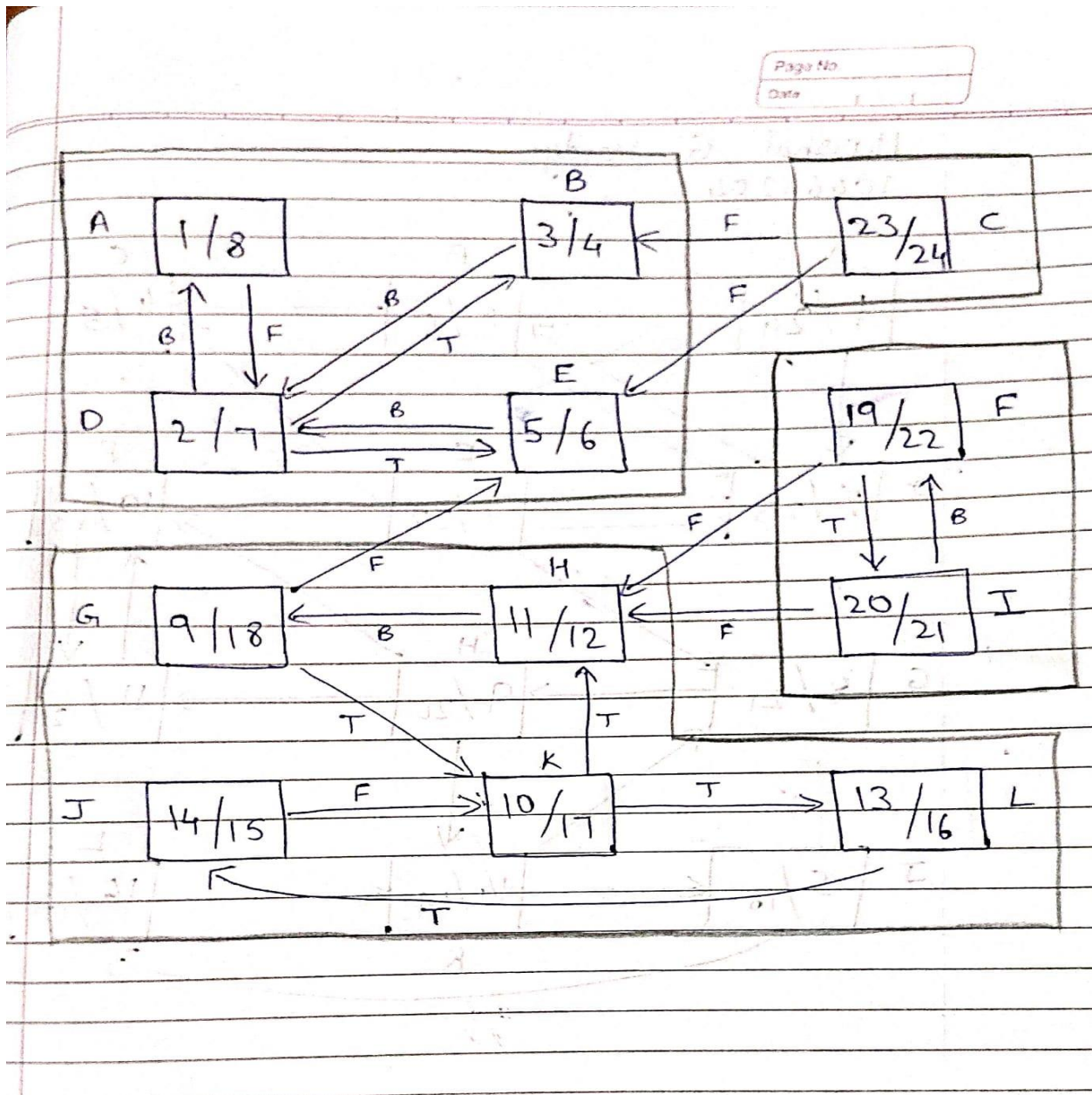
Cross Edge - EC

Q1.b

Tree – ED, DB, GH, KJ, LK, KG, IF, HI, BC, DA

Back Edge – AD, BD, JL, HK, FI, DE

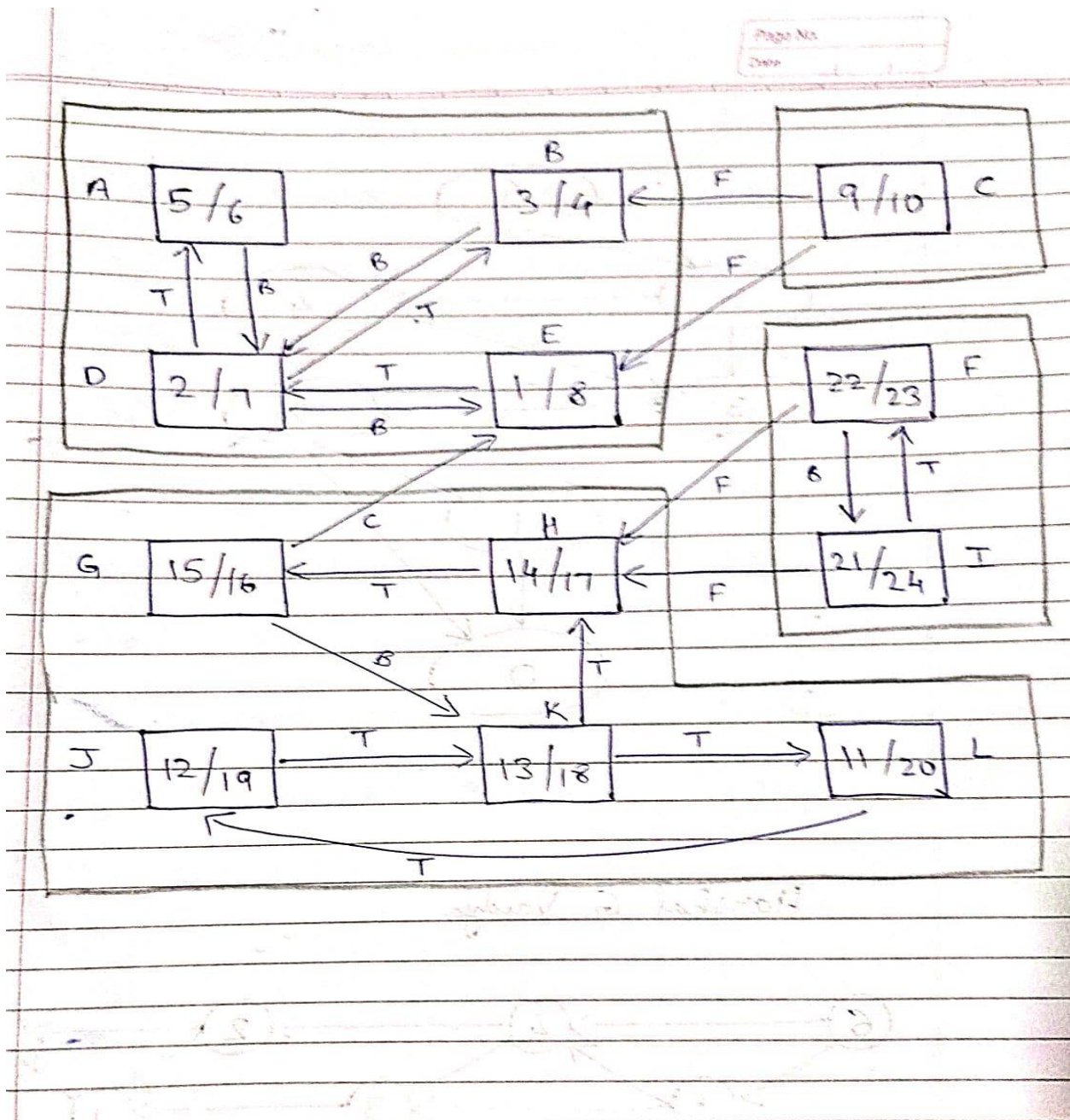Forward Edge – EC, HF

Cross Edge - EG

Q1.c

Strong Connected Component 1 = {A, D, B, E}

Strong Connected Component 2 = {G, H, J, K, L}

Strong Connected Component 3 = {F, I}

Strong Connected Component 4 = {C}

Q1.d

Strong Connected Component 1 = {E, D, B, A}

Strong Connected Component 2 = {L, J, K, H, G}

Strong Connected Component 3 = {I, F}

Strong Connected Component 4 = {C}

BFS Output :

0 1 2 3 5 4 7 6

DFS Output :

0 1 2 5 7 3 4 6 8 9