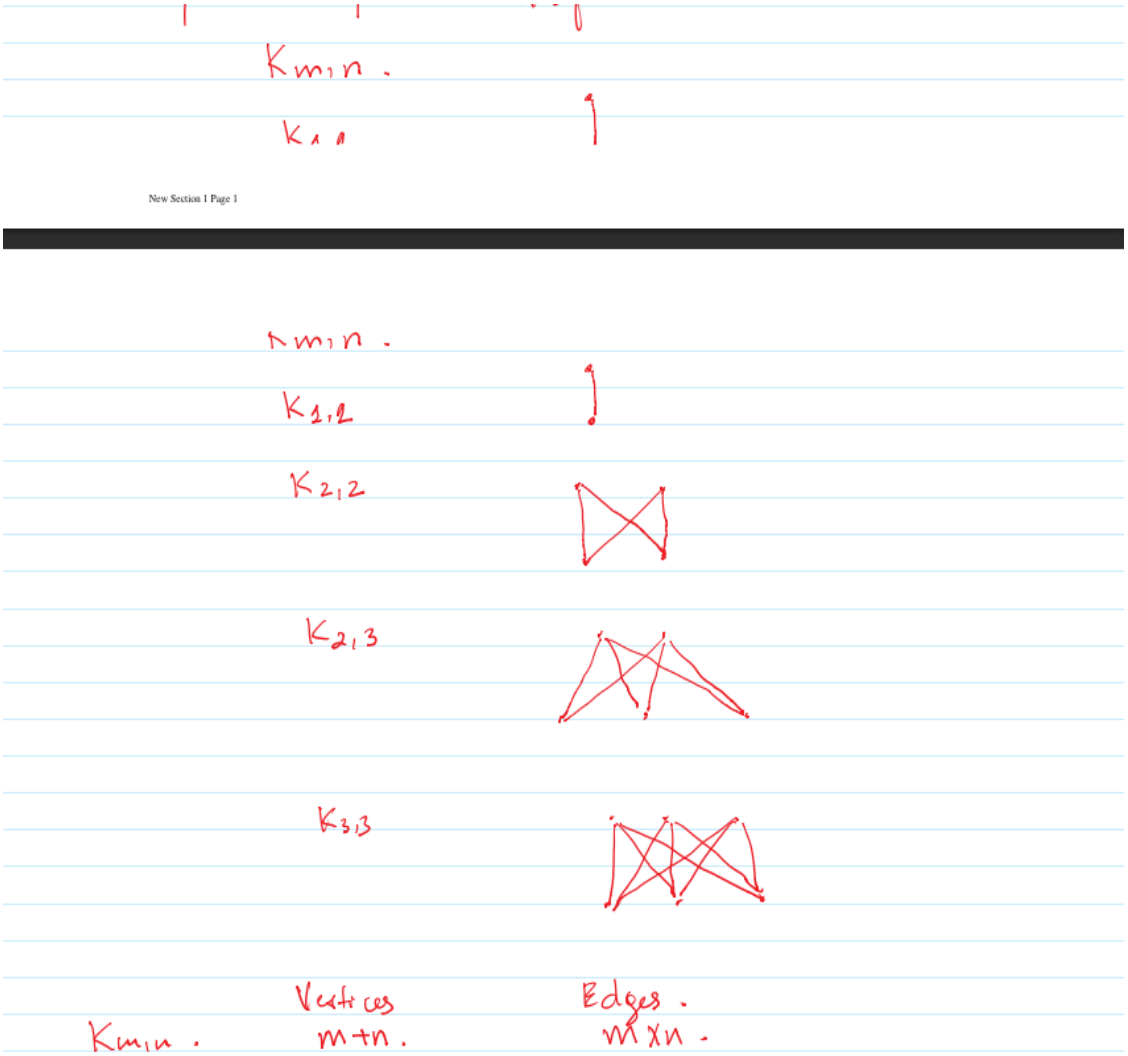
Discrete Lecture # 21

- **Bi-Partile done in lecture 20 PDF**
- **Complete Bi-Partile Graph (lecture 20)**



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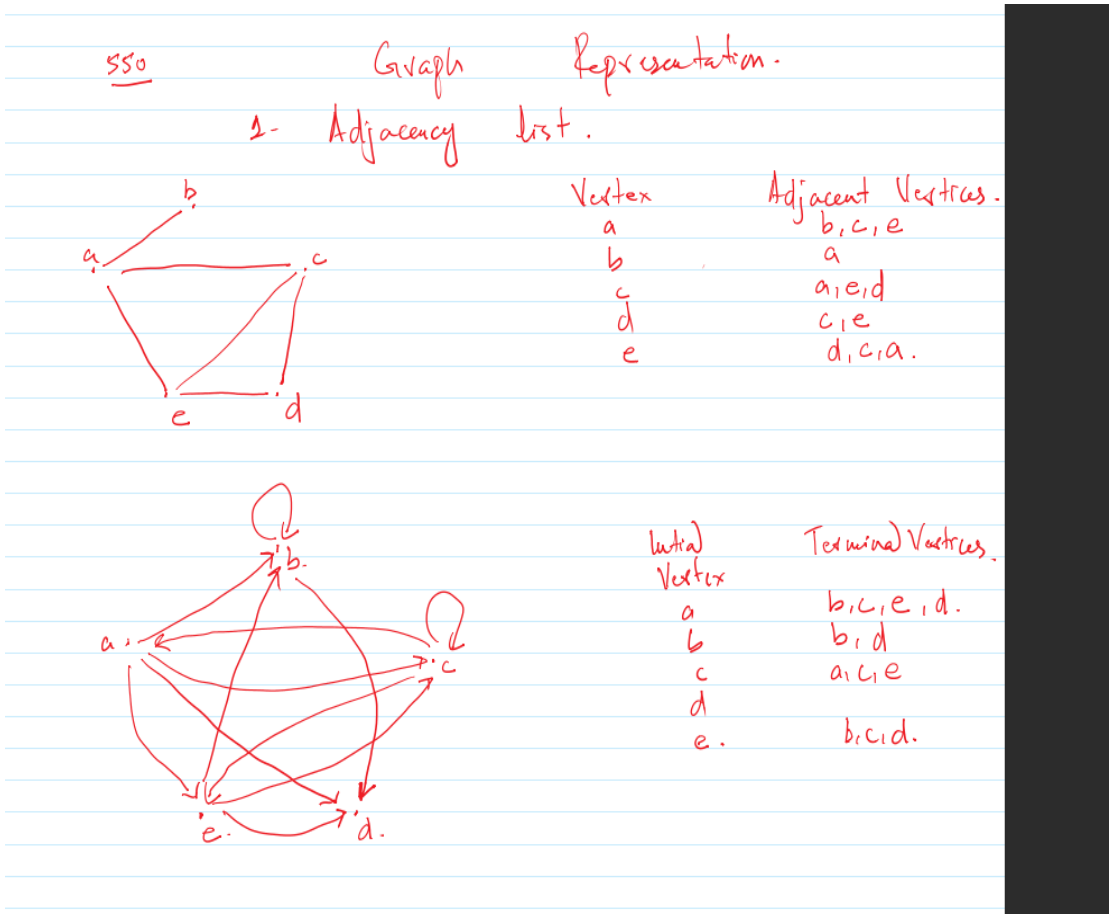
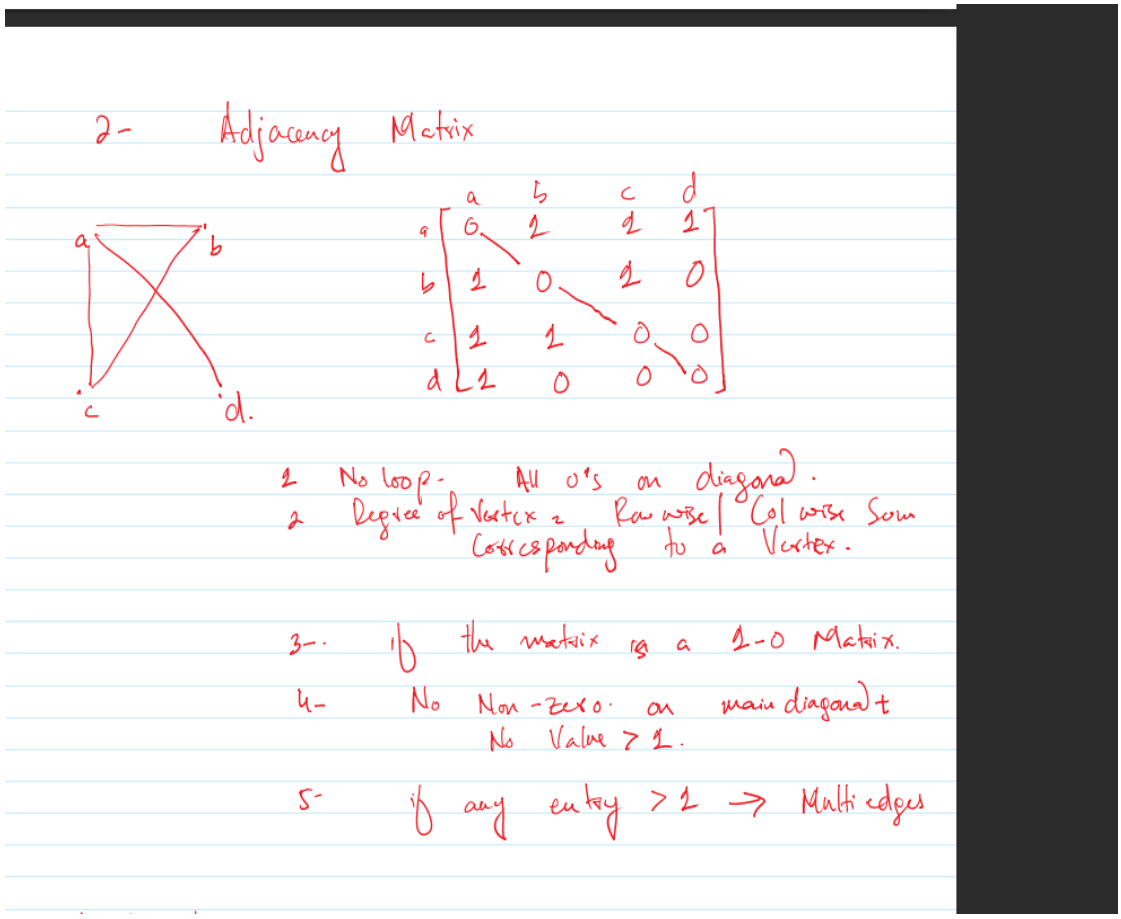
  - **Represented by m and n : m represents vertices in the top row and n represents vertices in the bottom row**
- **Graph Representation**
- **Adjacency List**
  - **Take a vertex and write its adjacent vertices in front of it , adjacent means the vertices that are directly connected with it**



- **Adjacency Matrix**
  - **Take all the vertices and put them in rows and column**
  - **Now consider first row and all column , if there exist a edge between the row and the respected column , mark it 1 in the matrix if not then let it be 0**



- No loop means All 0's on diagonals
- Degree of a vertex is the column wise sum of it or row wise sum
- No non-zero on main diagonal , no value > 1
- If any entry is > 1 it means there is a - > multiedge

- **Incident Matrix:**
  - In incident matrix we have vertices and Vi (i represents values) and edges labeled as Ei (i represents values)
  - In incident matrix vertices are rows
  - In incident matrix colums are edges
  - If the entries of any column is equal to the entries of any other column it means there is a multi edge