Discrete Lecture # 20

- **Finite Graph**
  - **Finite number of vertices**
- **Infinite Graph**
  - **Finite number of vertices**
- **Simple Graph**
  - **No Loop**
  - **No MultiEdge**
- **MultiGraph**
  - **Have Loop**
  - **Have MultiEdges**
- **Undirected Graph**
  - **No of Vertices with odd degree will be EVEN**
- **Directed Graph**
  - **Degree IN**
  - **Degree OUT**
  - Theorem
  - **Degree IN = Degree OUT = TOTAL EDGES**
- **Psuodo Graph**
  - **Loop**
  - **Possibly Multi-Edge**
- **Directed Simple Graph**
  - **No Loop**
  - **No Multi-Edges**
  - **A simple graph which is directed**
- **Degree**
  - **Degree means the number of vertices connected to a vertix**
- **Hand Shaking Theorem**
  - **2e = Sum of degree of all vertices**
- **Multiplicity**
  - **Highest number of multi edges in a graph**
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