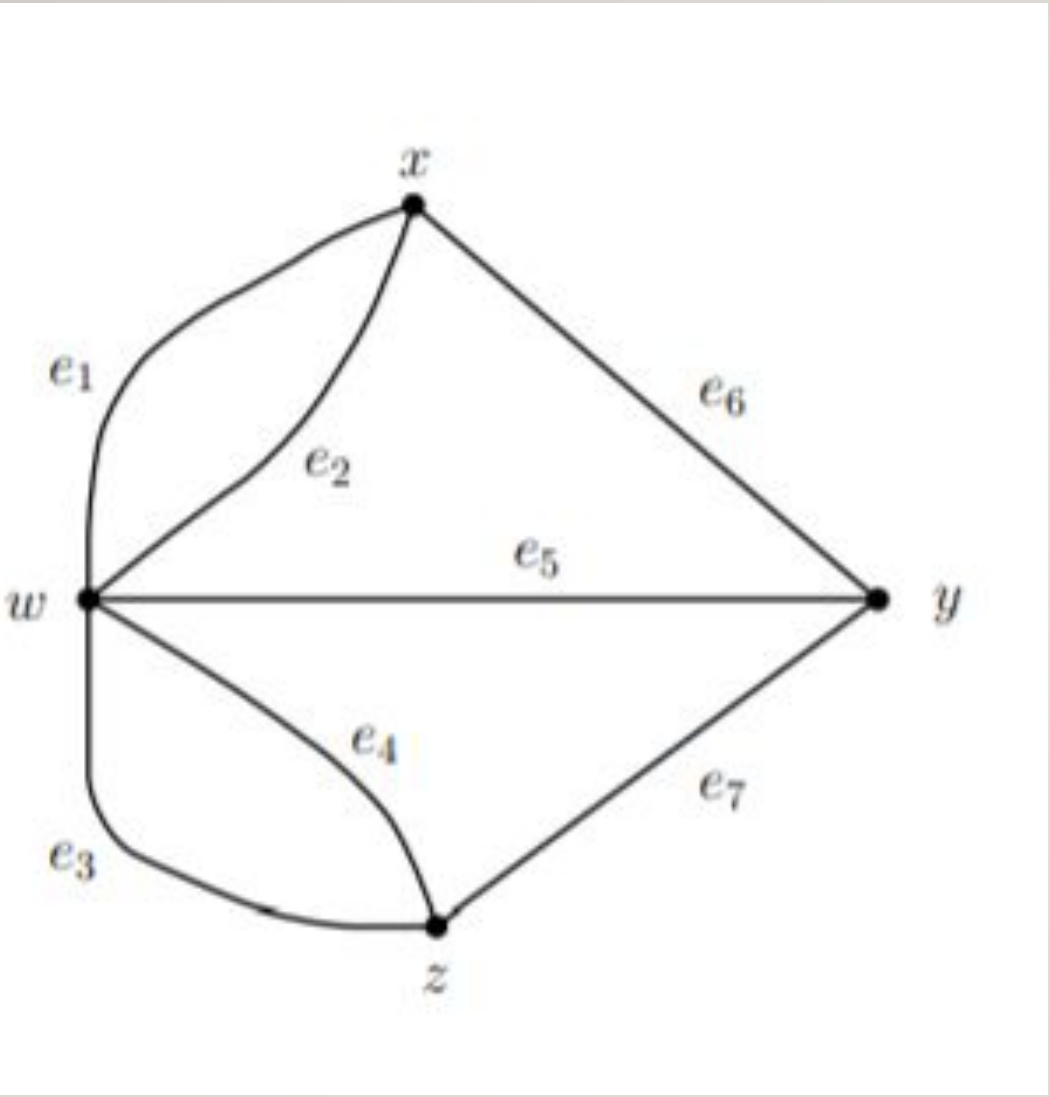
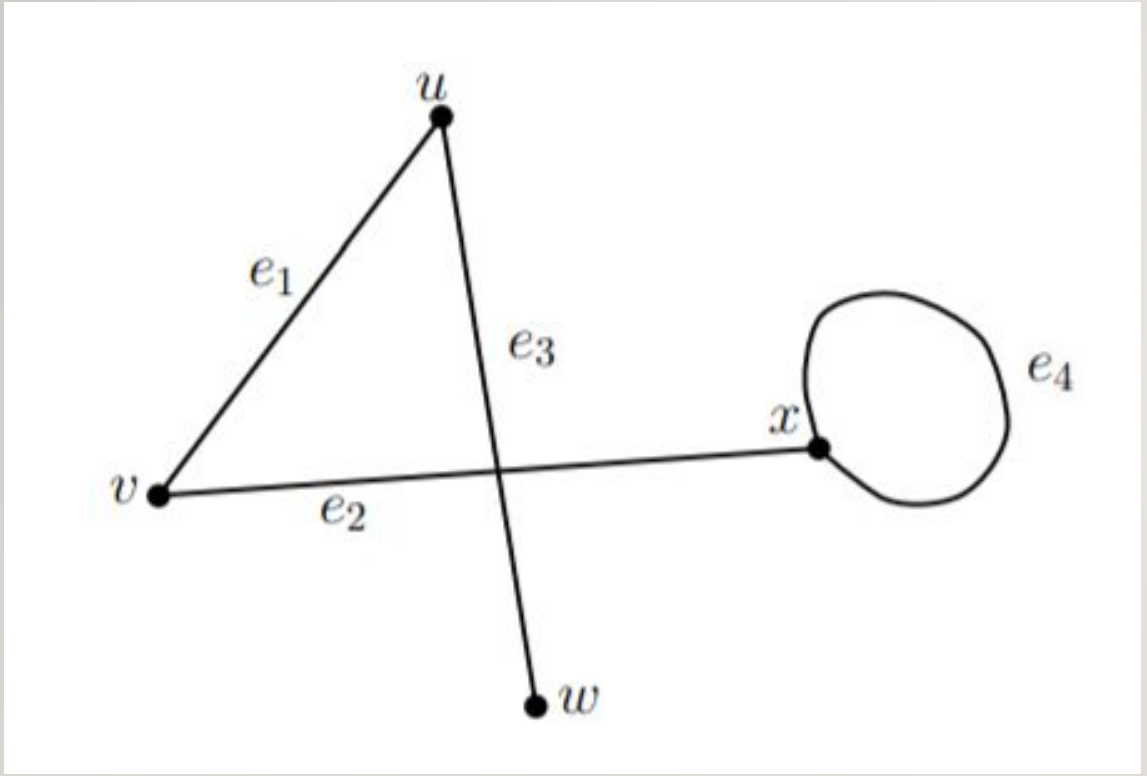
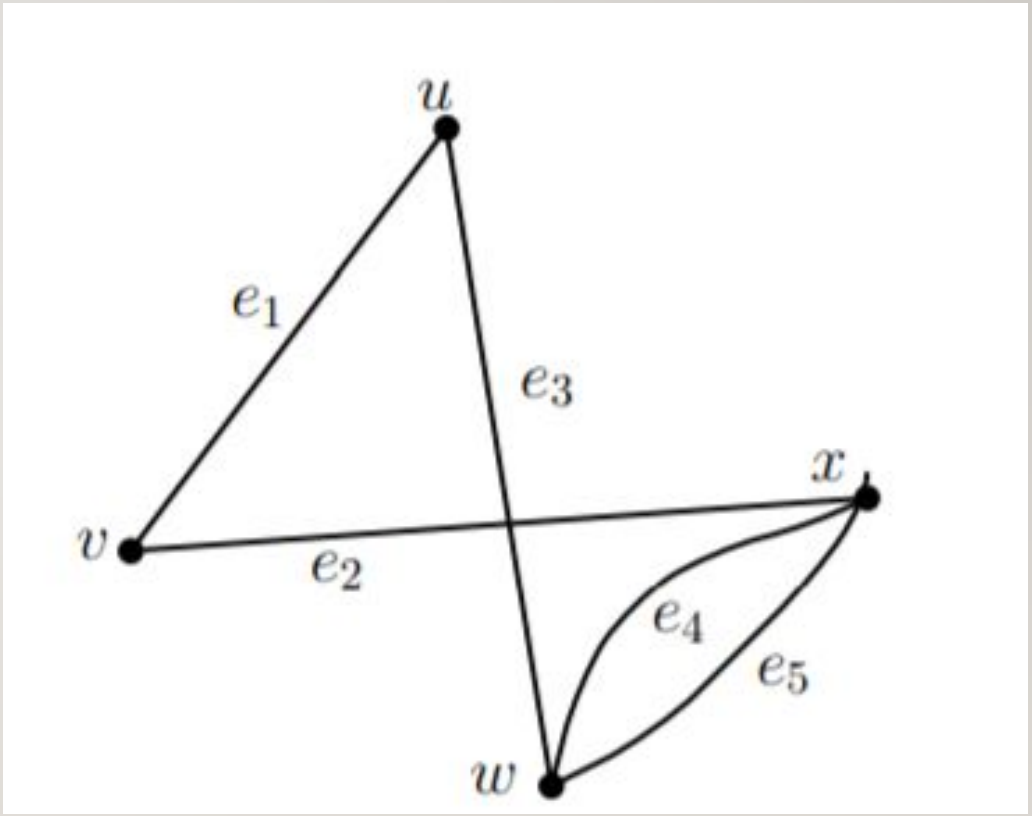
GRAPH THEORY

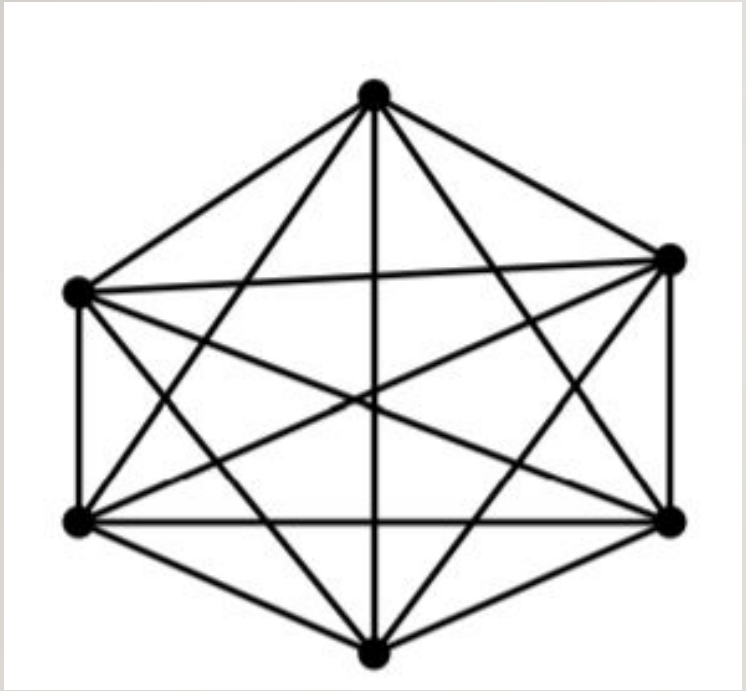


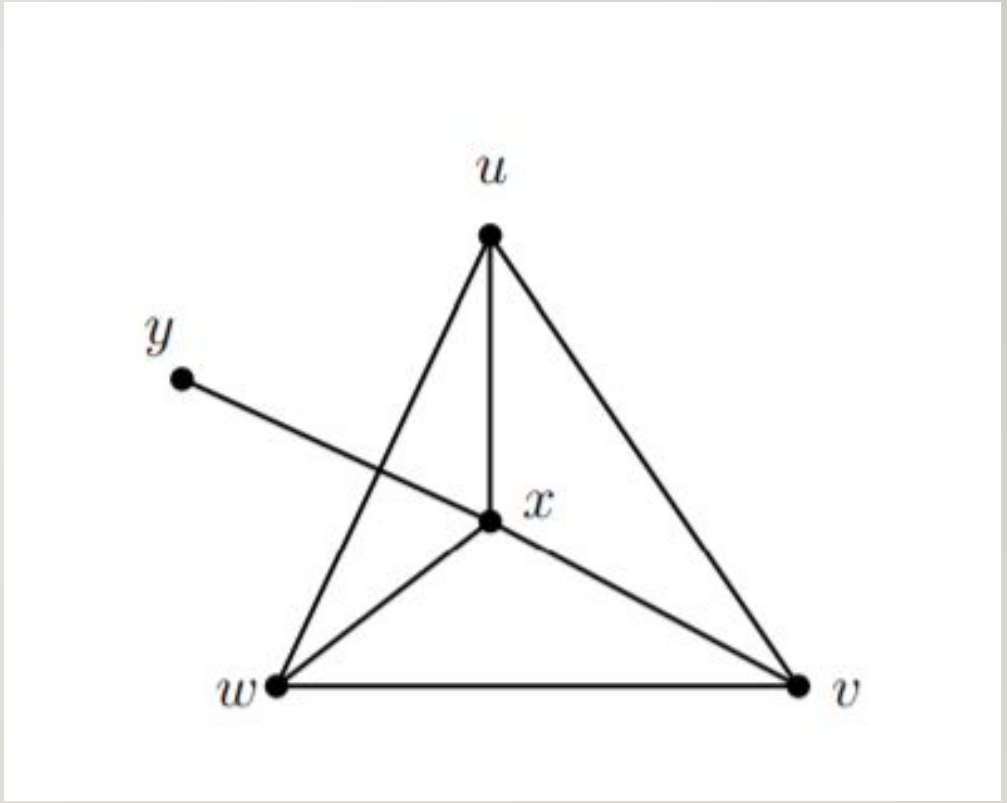
- Edges?
- Vertices?
- Relations?


u
e1
e3
e4
x
v
e2
w

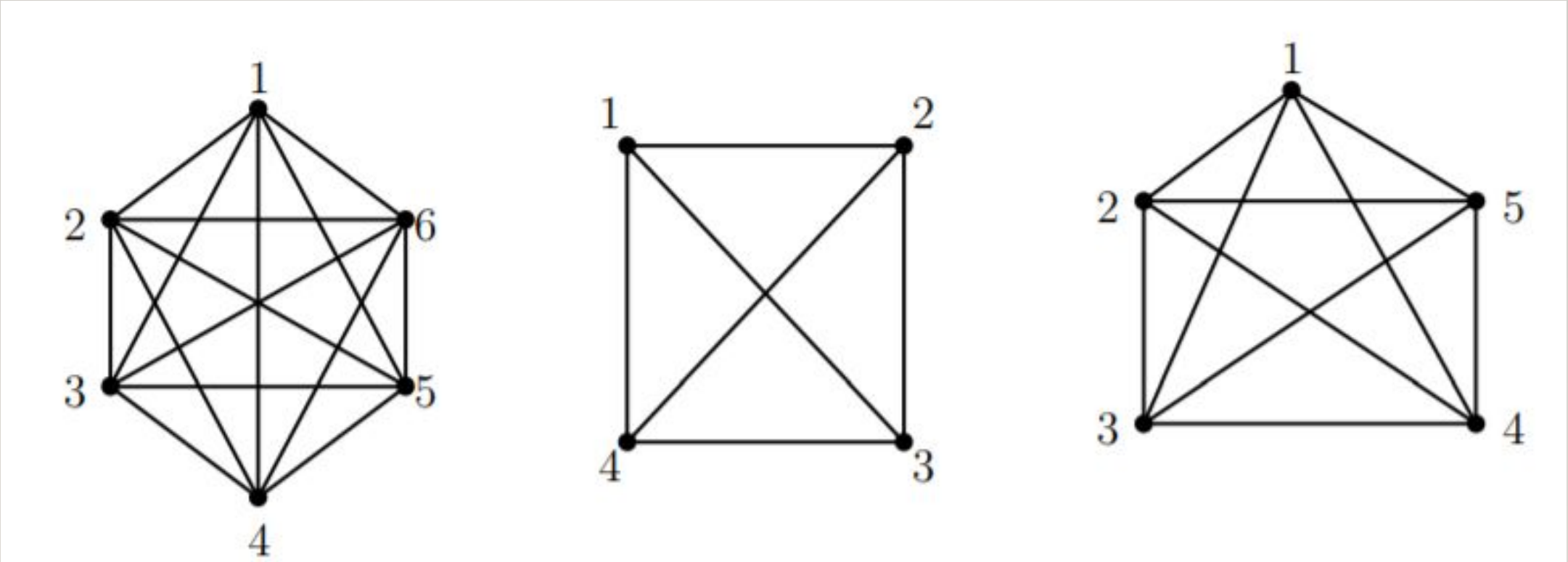

u
e1
e3
x
v
e2
e4
e5
w

- Simple Graphs?

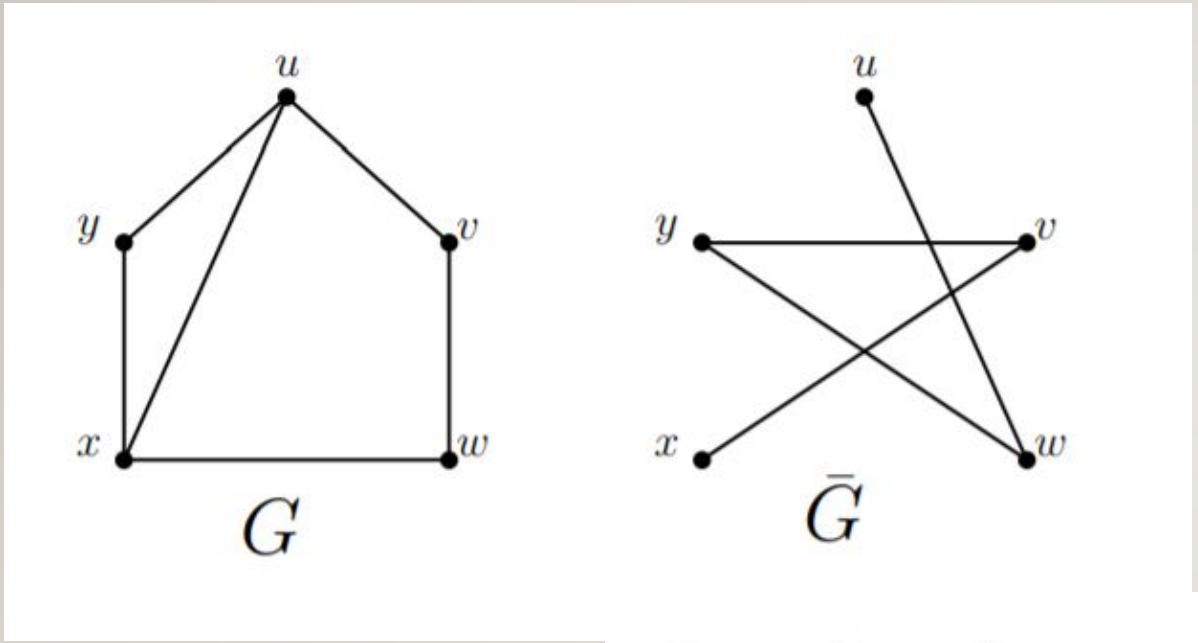


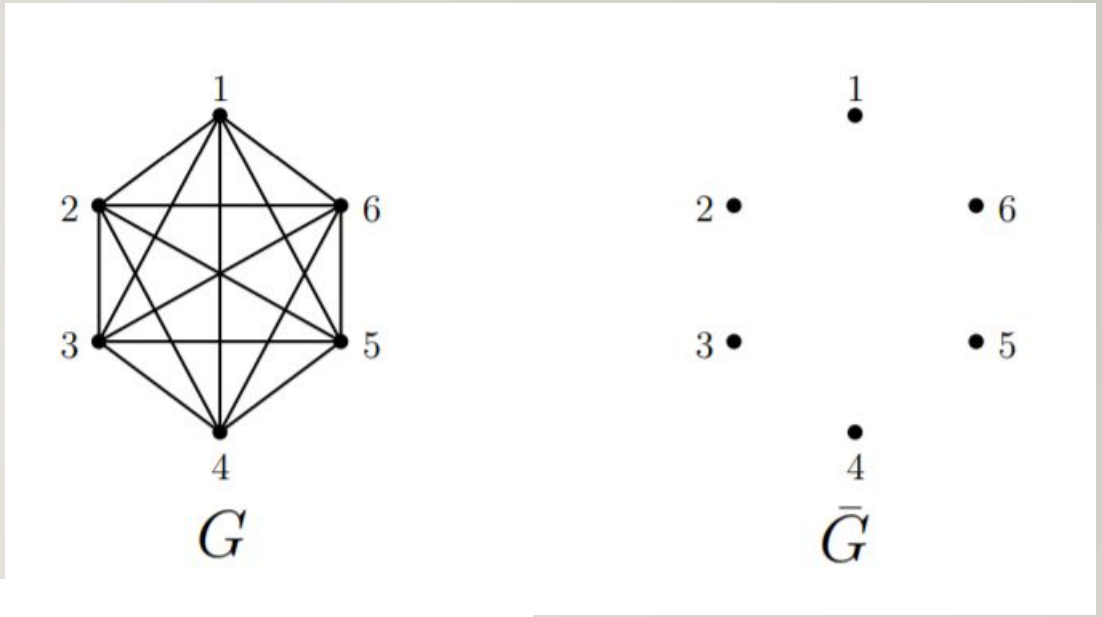


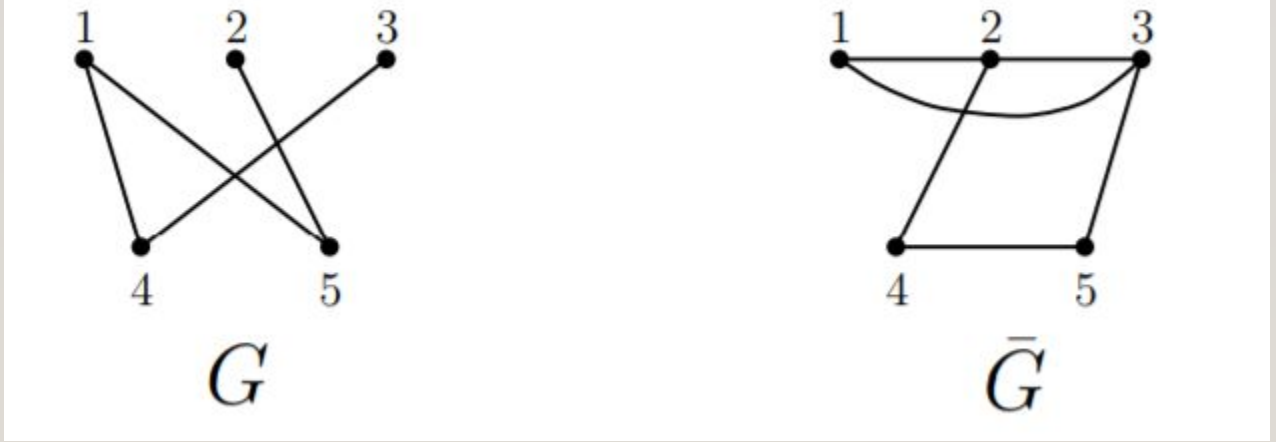
- Maximum Vertices?



- Graph Compliments



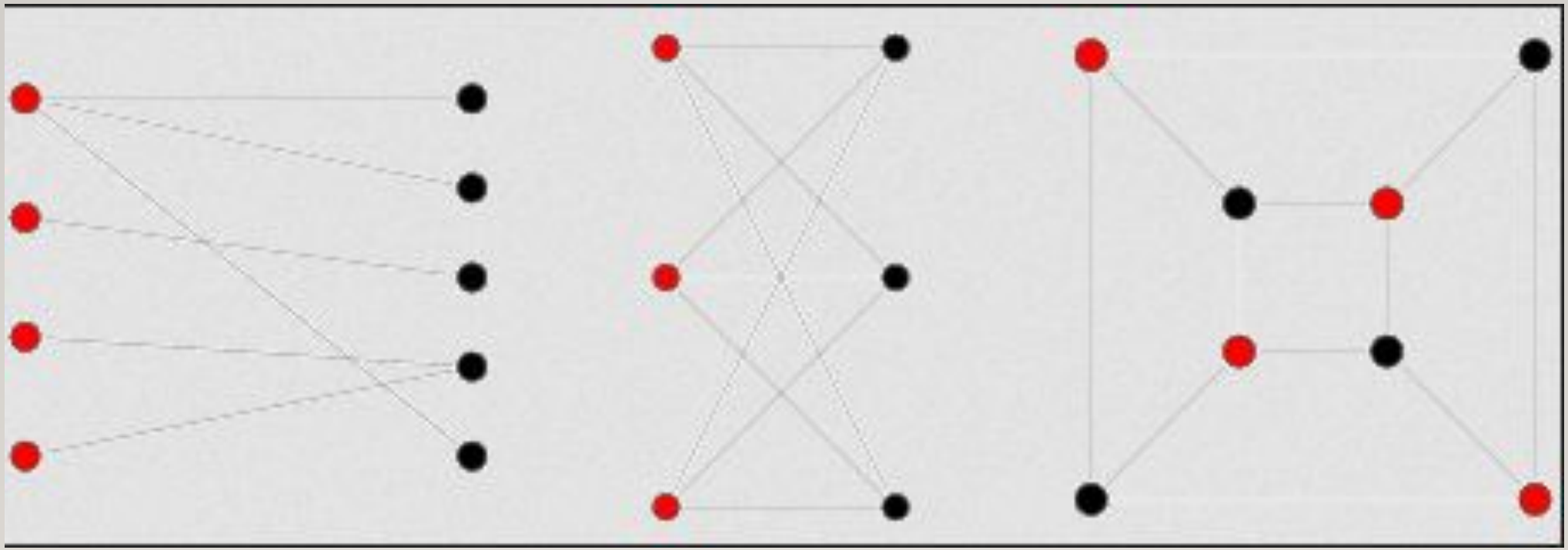




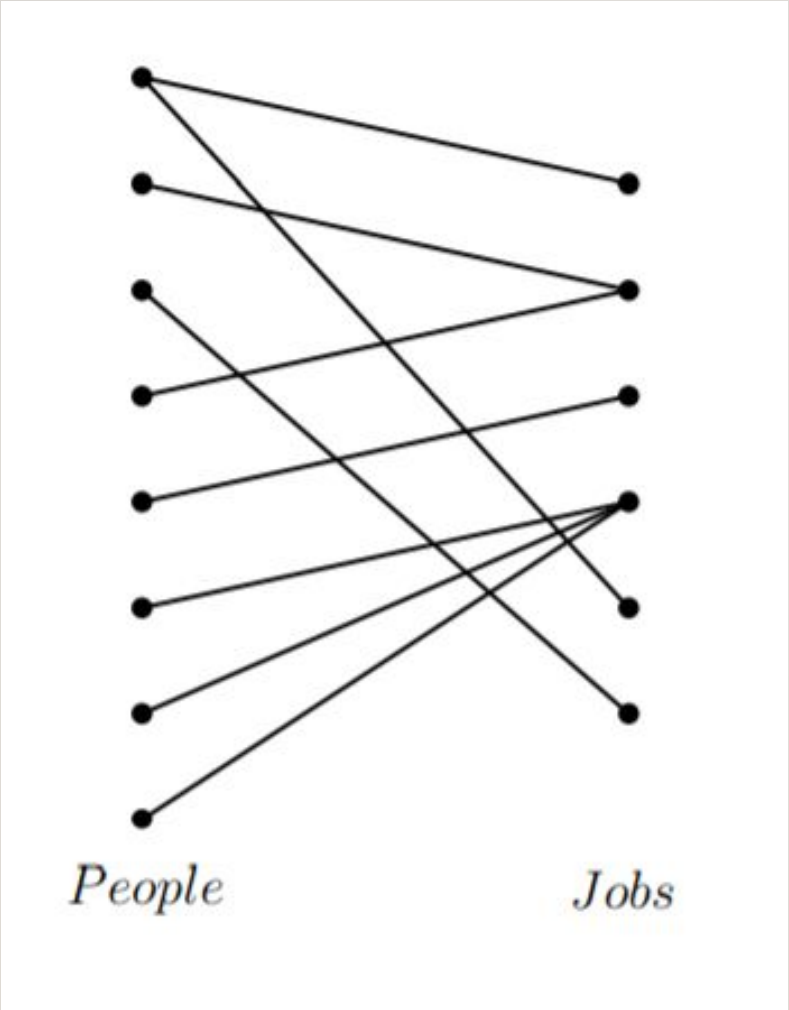
- Question

- Prove that every set of six people contains at least three mutual acquaintances or at least three mutual strangers.

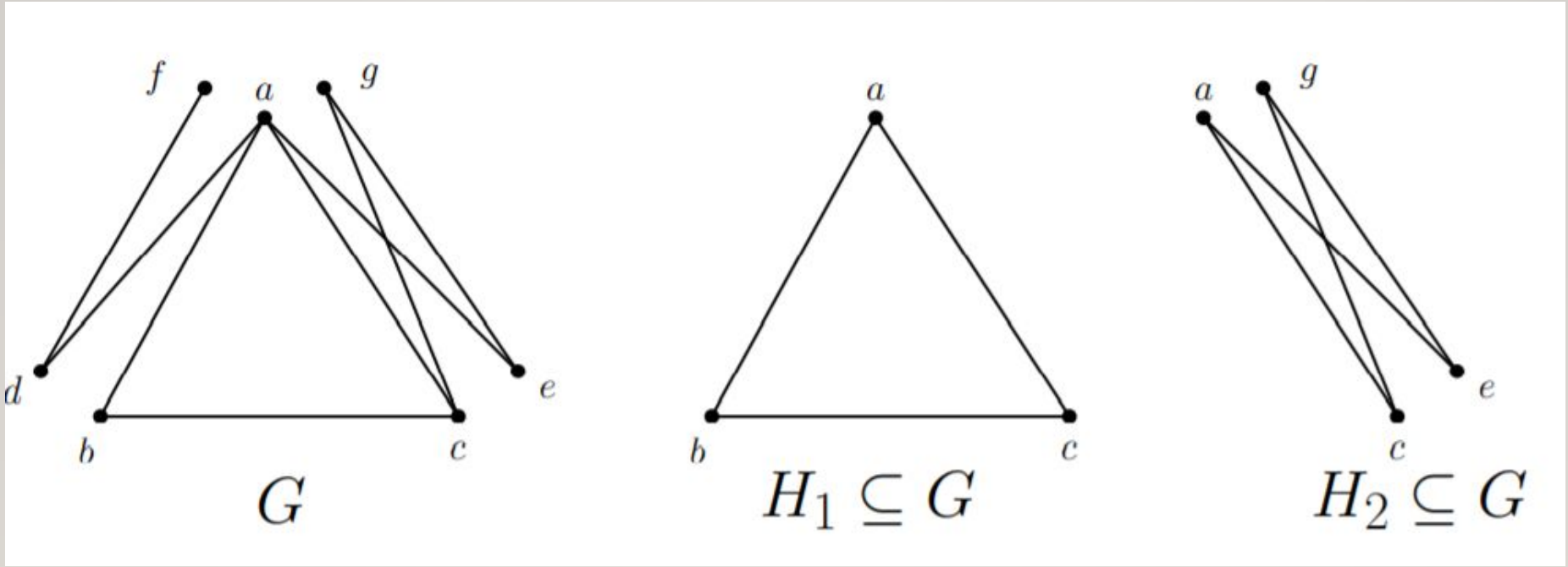
- Bipartite Graph



- Bipartite Graph



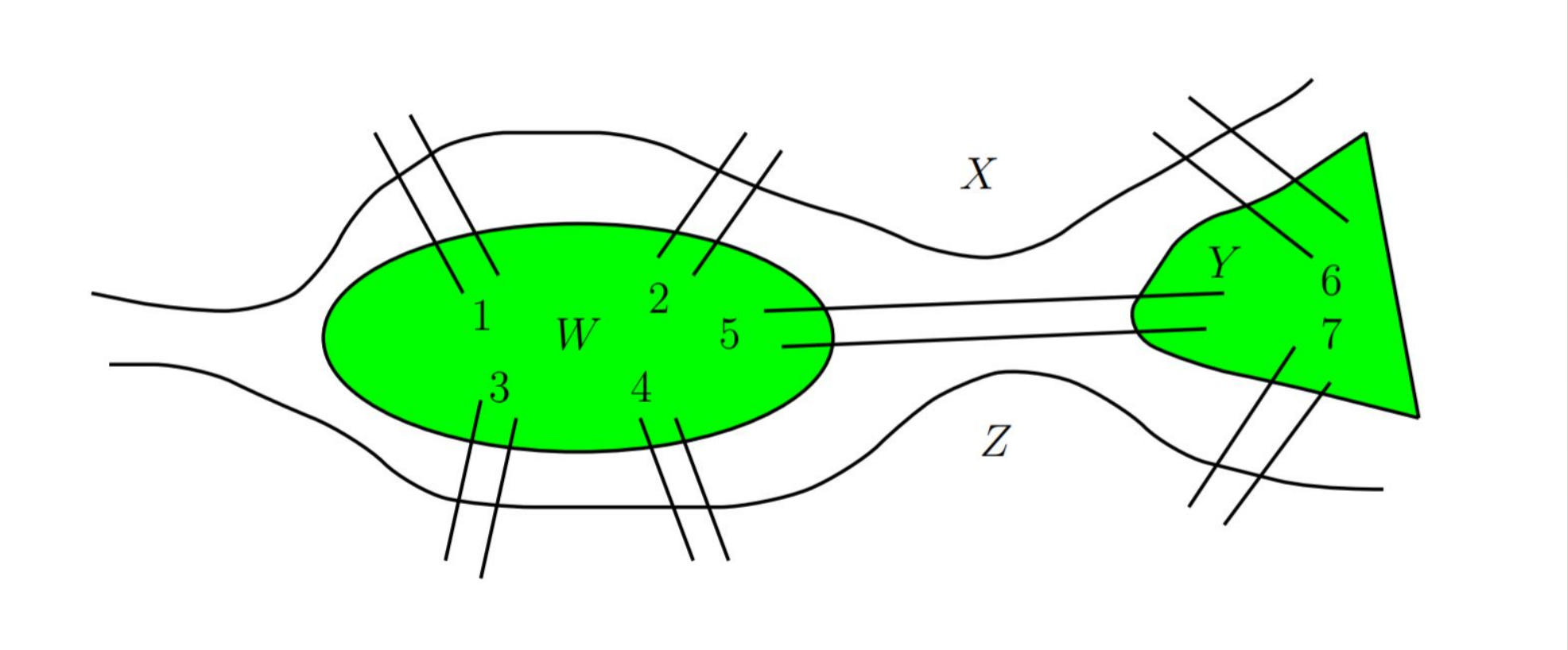
- Subgraph



The Konigsberg Bridge Problem

- The city of Konigsberg was located on the Pregel river in Prussia. The city occupied two islands (coloured green) plus areas on both banks. These regions were linked by seven bridges as shown in the next slide. The citizens wondered whether they would leave home, cross every bridge exactly once and return home.

- The Konigsberg Bridge Problem



- Thank You

- Credits: Prof Sumit Kumar Pandey