MACM 201 day 7 - Graph Isomorphism

Summary

An graph is **isomorphic** to another graph if it has the same number of **vertices**, **edges**, and **vertex degrees**. Also, the graphs must have the same number of **cycles** of a given size. That is, there must be a **bijection** between the graphs.

Terminology

Isomorphic graphs

- let G = (V1, E1) and H = (V2, E2) be two graphs. Then G is ismorphic to H if there is a bijection f: V1->V2
- The number of vertices must be the same
- The number of edges must be the same

Isomorphic Graphs

An isomorphic graph has the following:

1. same number of vertices and edges
2. same number of vertex degrees
3. same number of cycles of a given size