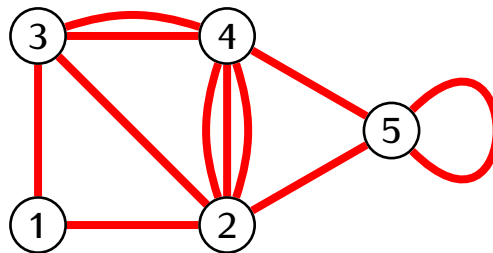**Recall:**

Definition

A *graph* (or a *network*) is a pair $G = (V, E)$ where:
- V is the set of *vertices* (or *nodes*);
- E is the set of *edges*;
- each edge connects two vertices.

Note. We will usually denote vertices of a graph by positive integers: 1, 2, 3, etc.
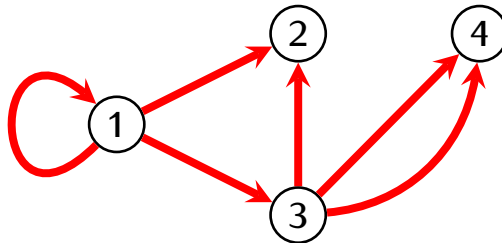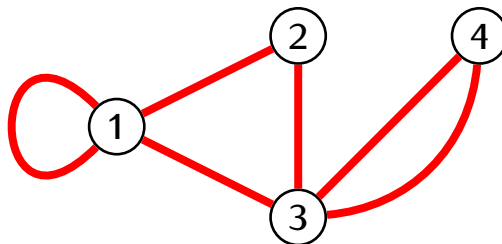

Examples:

- computer networks

- social networks

- transportation networks

- citation networks

- ecological networks

Some types of graphs

Directed graphs. Every edge has a direction pointing from one vertex to another.

Undirected graphs. Edges do not have a direction.

Simple graphs. There is at most one edge between any two vertices and there are no self–edges (i.e. edges that start and end in the same vertex).