## Graph-like Data Models A better solution to many-to-many relationships

- Graph: vertices + edges
  - schema-less, Eg. social graphs, the web graph, road/rail networks etc.
- Property graph model
  - two relational tables: one for vertices and one for edges
    - good for evolvability
  - query language
    - Cypher query language declarative, created for Neo4J
    - SQL:1999 recursive common table expressions (the WITH RECURSIVE syntax); very clumsy
- Trip-store model
  - a record is in the form: (subject, predicate, object)
    - semantic web, RDF (Resource Description Framework)
  - the SPARQL query language
- Catalog: the foundation of query languages