Graph Data - Modelling and Quering

with Neo4j and Cypher

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Open Data Science Conference

12 October 2017

Agenda

What are graphs?

- Definition
- Typical use cases
- Not so typical use cases

Graph

Definition

Graph is an ordered pair $G = (V, E)$ comprising a set V of *vertices*, *nodes* or *points* together with a set E of *edges*, *arcs* or *lines*, which are 2-element subsets of V.[1]

[1] en.wikipedia.org/wiki/Graph_(discrete_mathematics)

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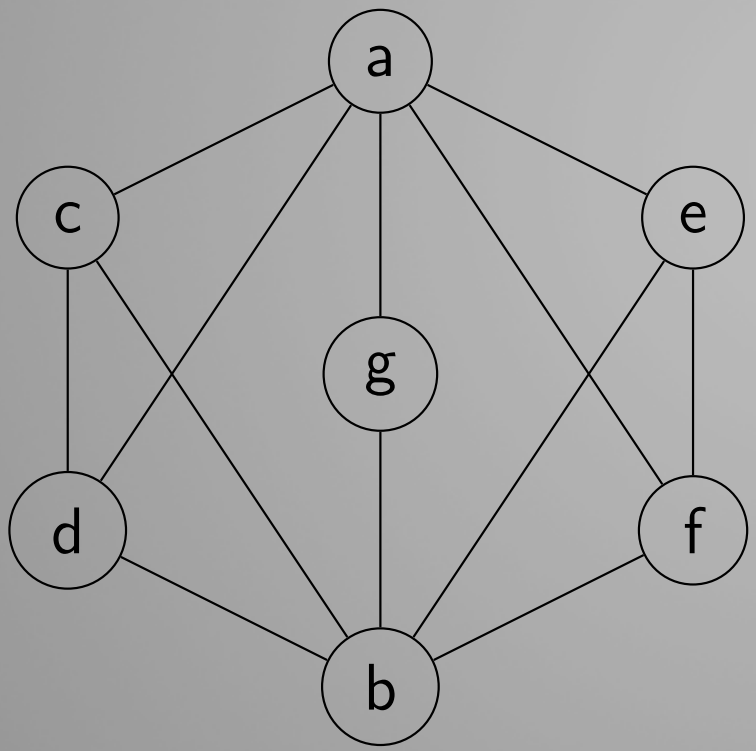

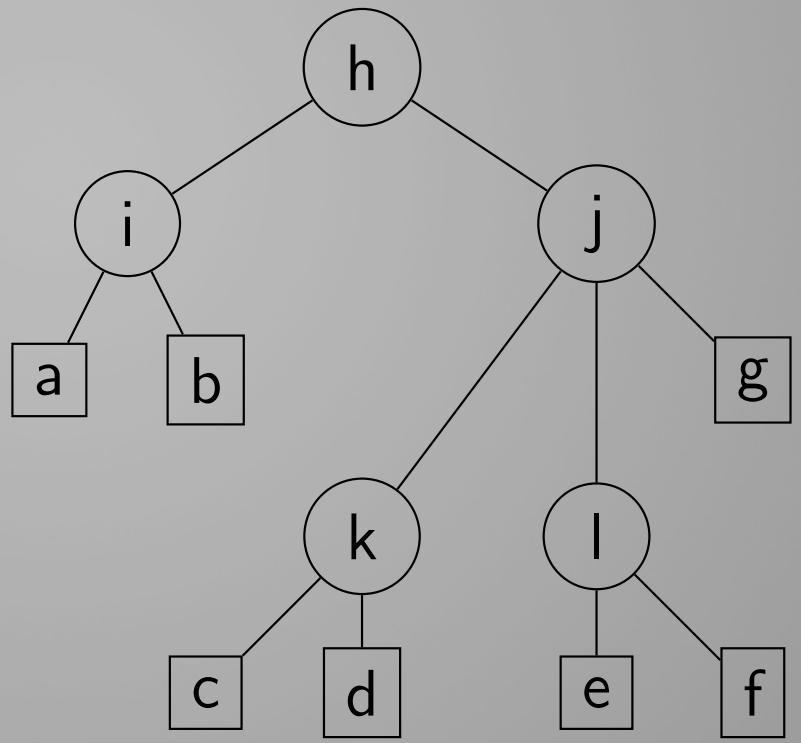

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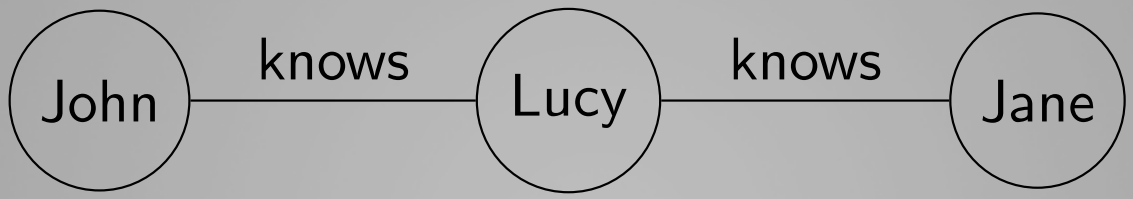
Use Cases

Use Cases

- Networks
  - Social networks



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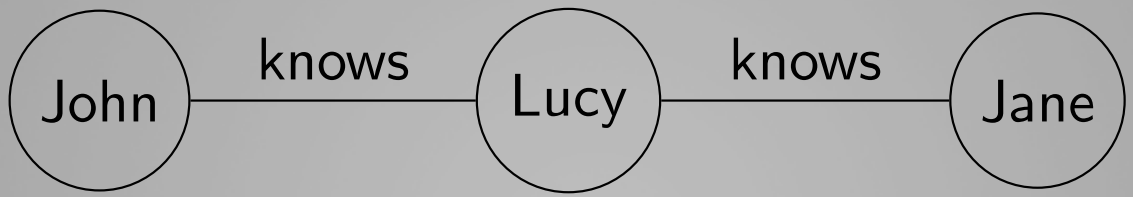
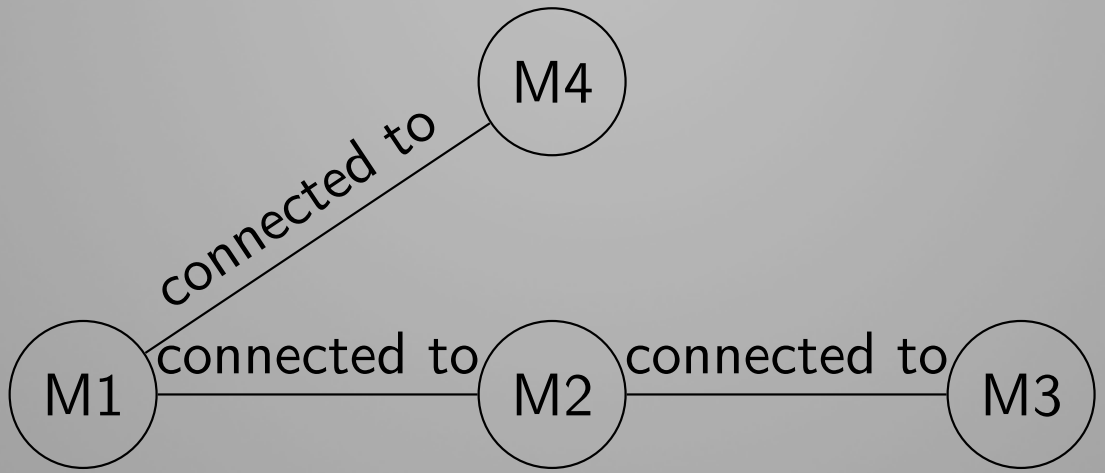
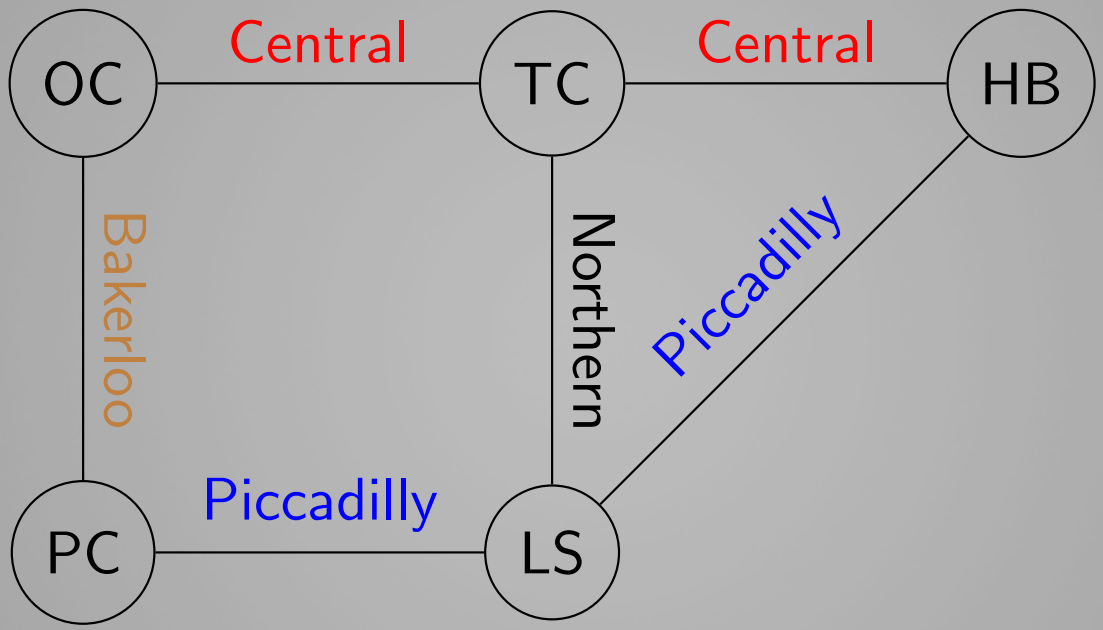


  - Computer networks



Use Cases

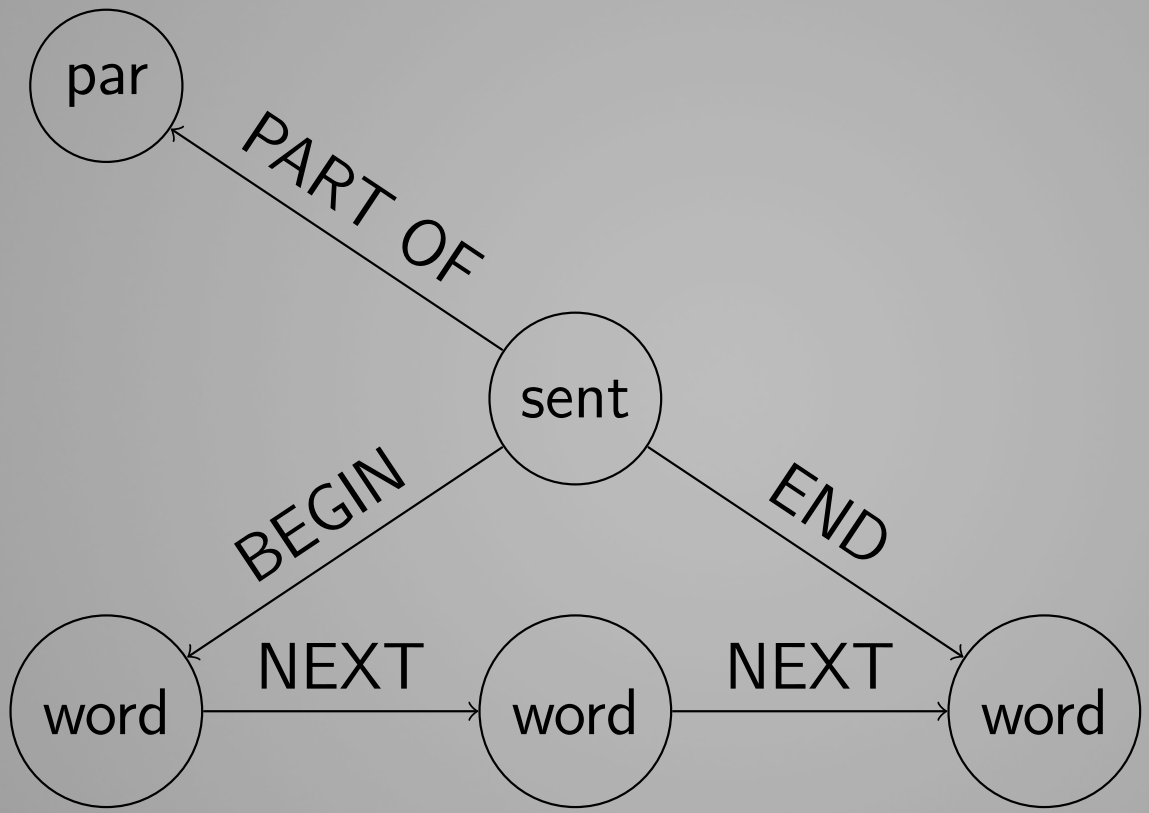
- Networks
  - Transport networks



OC = Oxford Circus
TC = Tottenham Court Road
HB = Holborn
LS = Leicester Square
PC = Piccadilly Circus

Use Cases

- Natural Language Processing



- Document management
- Chemistry

Use Cases

- Document management