

Please find two other learning partners,

- ▶ form a standing group and
- ▶ tell them what you already know about
 - ▶ graphs,
 - ▶ graph databases and
 - ▶ Neo4j.

Graph Data - Modelling and Querying

with Neo4j and Cypher

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Open Data Science Conference

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What are graphs?

- Definition

- Typical use cases

- Not so typical use cases

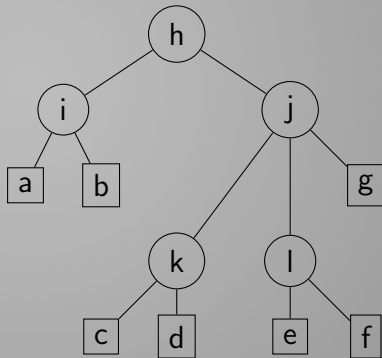
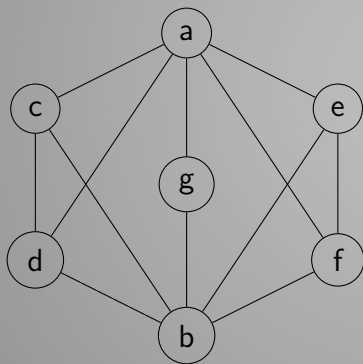
Definition

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_\(discrete_mathematics\)](https://en.wikipedia.org/wiki/Graph_(discrete_mathematics))

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Use Cases



-
- ```

graph LR
 John((John)) -- knows --- Lucy((Lucy))
 Lucy -- knows --- Jane((Jane))

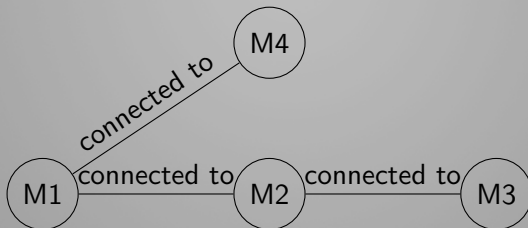
```

- ▶ Networks

- ▶ Social networks

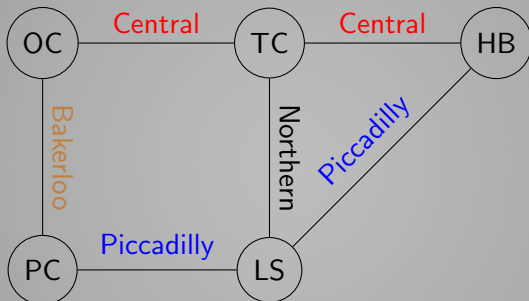


- ▶ Computer networks





- Networks
  - Transport networks



OC = Oxford Circus

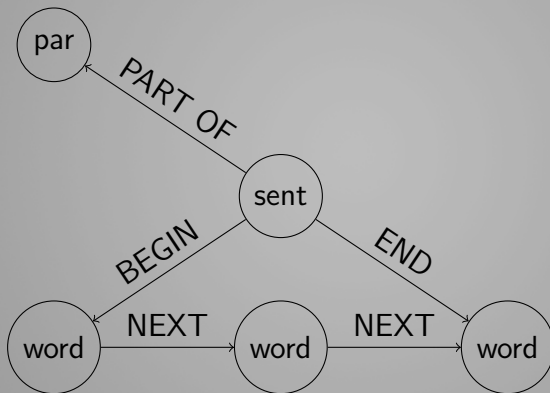
TC = Tottenham Court Road

HB = Holborn

LS = Leicester Square

PC = Piccadilly Circus

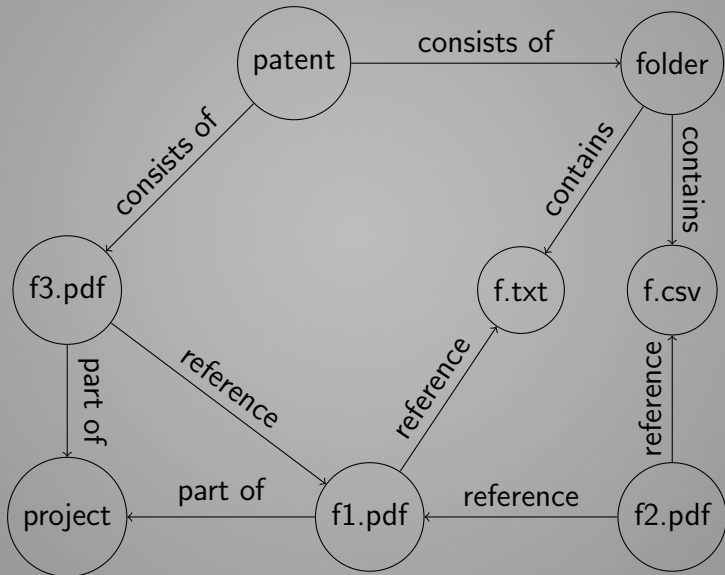
- Natural Language Processing



# Use Cases



## ► Document management



# Use Cases

## ► Chemistry

