Question Answering

Relation Identification and Linking

Example

Question: What is the capital of Germany?

Answer: Berlin

Question: Where is the headquarters of United Nations located?

Answer: New York City, New York, United States

Basic Idea

Question: What is the capital of Germany?

Answer: Berlin

Entity: 'Germany'
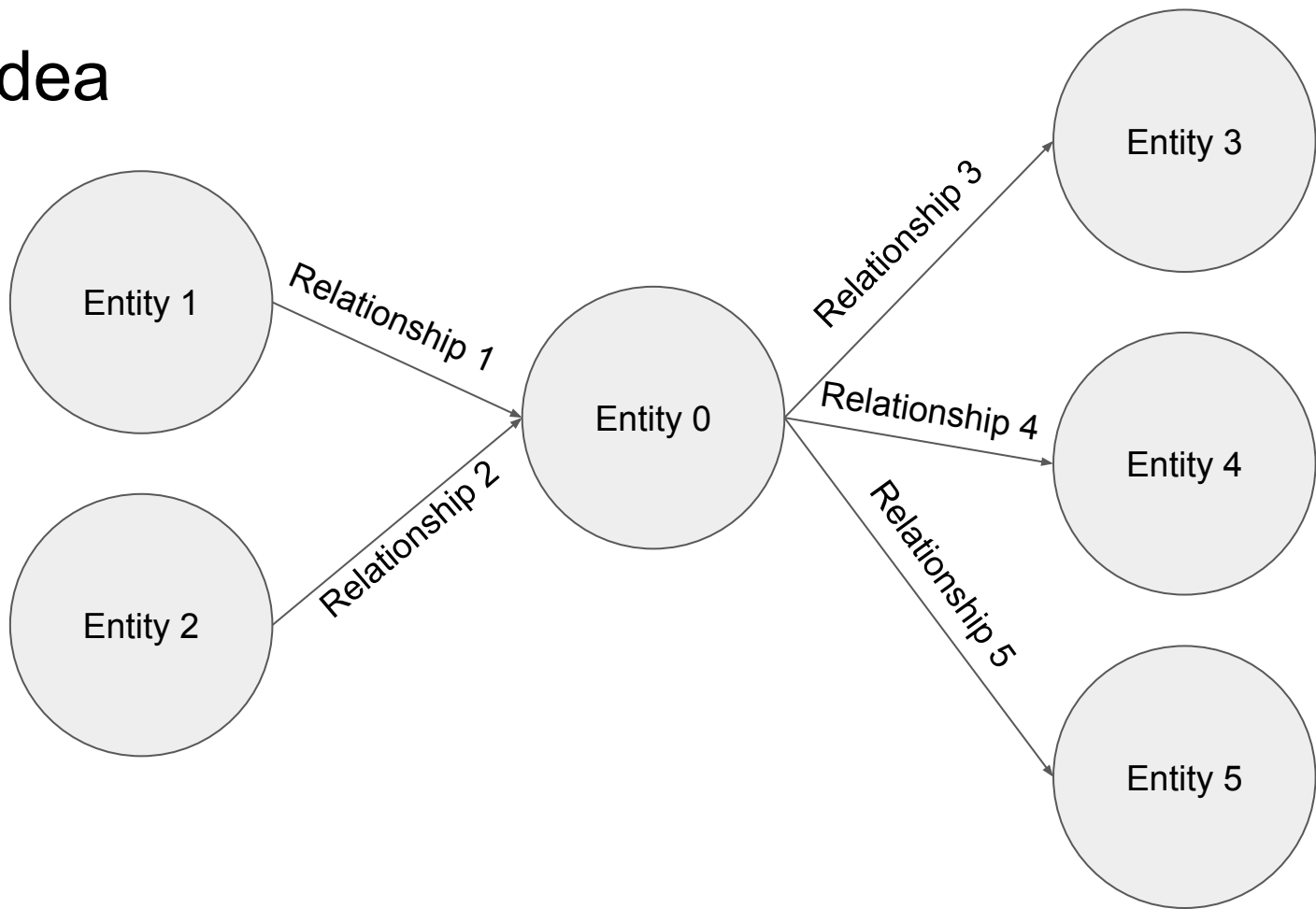
Relation: 'Capital'

Basic Idea

Question: Where is the headquarters of United Nations located?

Answer: New York City, New York, United States
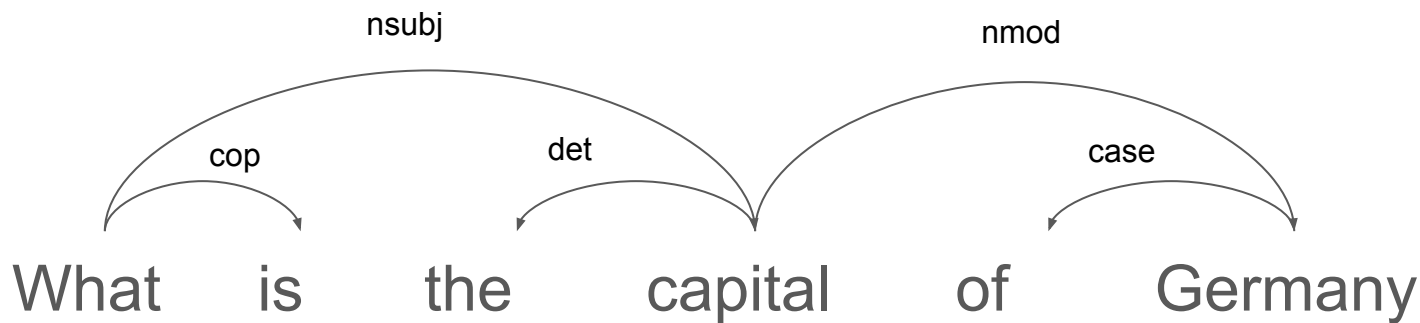

Entity: 'United Nations'

Relation: 'headquarters'

Basic idea

Dependency Parsing

Question: What is the capital of Germany?

Answer: Berlin

Challenges

Question: What is the X of Y?

Question: What is X of Y of Z?

Questions:

What is the capital of Germany?

What is the population of capital of Germany?

Flow

The question:
- **"Who is the president of the United States?"**

Extract Features using dependency parsing.
- Features: "**president**", "**United States**"

Identify and link the entity in the Question.
- **"United States" : dbr:United_States_of_America**

Flow

Extract all properties related to the target entity.
- select distinct ?prop where { dbr:ENTITY ?prop ?ent }

Find closest match between the *dbpedia property label* and the relation keyword identified in the Question (Word2Vec)
- "President" ➔ "leader"

To do

Implementation of current strategy for simple questions.

Improve the model for complex questions.

Testing and evaluation.

Thank you