## CS5560 Knowledge Discovery and Management

Problem Set (PS-2A)

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1. Draw knowledge graphs (both Schema and Data graphs)

CHICAGO (AP) — Citing high fuel prices, United Airlines said Friday it has increased fares by \$6 per round trip on flights to some cities also served by lower-cost carriers. American Airlines, a unit AMR, immediately matched the move, spokesman Tim Wagner said. United, a unit of UAL, said the increase took effect Thursday night and applies to most routes where it competes against discount carriers, such as Chicago to Dallas and Atlanta and Denver to San Francisco, Los Angeles and New York.

- 2. Design question answering for the given input text. Try to include at least one questions for the following question types. What

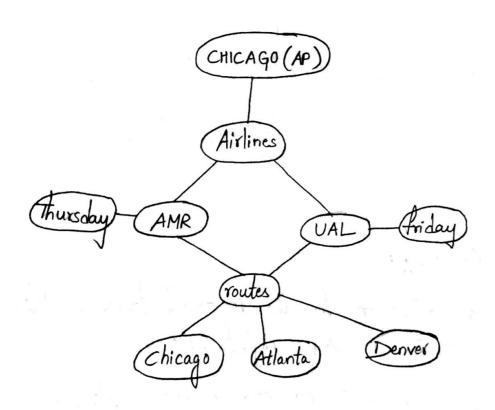
  - Where
  - When
  - Who
  - How
  - How much
  - Yes/No

1. Knowledge graph:

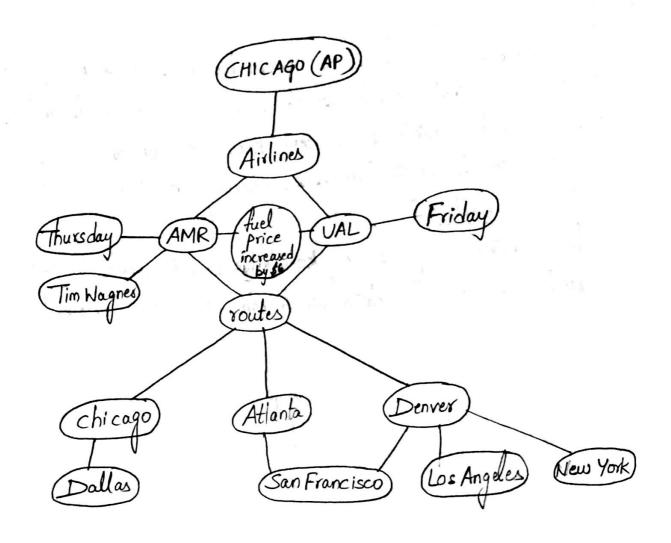
The knowledge Graph is a knowledge base used by Google to enhance its search engine's search results with semantic-search information gathered from a wide variety of sources. Knowledge Graph display was added to Google's search engine in 2012, starting in the united states.

Schema graph:

The schema graph is a knowledge based graph in which the leaf node contains the data which can be further extended.



Data graph:
The data graph is a knowledge based graph in which the leaf node contains the data and is elaborated more than in scheme graph



2. Question Answering:

1. What is the reason for the increased fares on flights to some cities?

Ans: High fuel prices

2. Where the discount carriers routes applies?

Ans: The discount carriers routes are from Chicago to Dallas and Atlanta and Denver to San Frankisco, Los Angeles and New York.

- 3. When the United Airlines increased forces?
- A' United Airlines increased fores on Friday
- 4. Who said American Airlines immediately matched the move?
- A. Tim Wagner.
- 5. How the faxes increased effect the fores?
- A: citing the high fuel prices the fares also increased
- 6. How much the fares increased per round trip on flights to Some cities.
- A: the fores increased by \$6
- 7. Does the high fuel prices increased the fares on flights?
- A: Yes