

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

1A) Knowledge graph :-

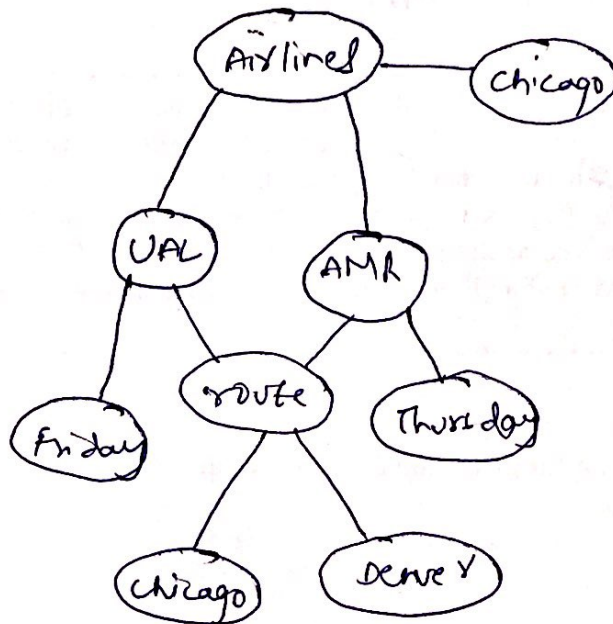
The Knowledge graph is a knowledge base used by Google to enhance its search engine's search results with semantic search information gathered from a wide variety of sources. It captures entities, attributes and relationships. Nodes are entities. Nodes are labeled with attributes.

Schema Knowledge graphs:-

In schema knowledge graph the leaf node contains the

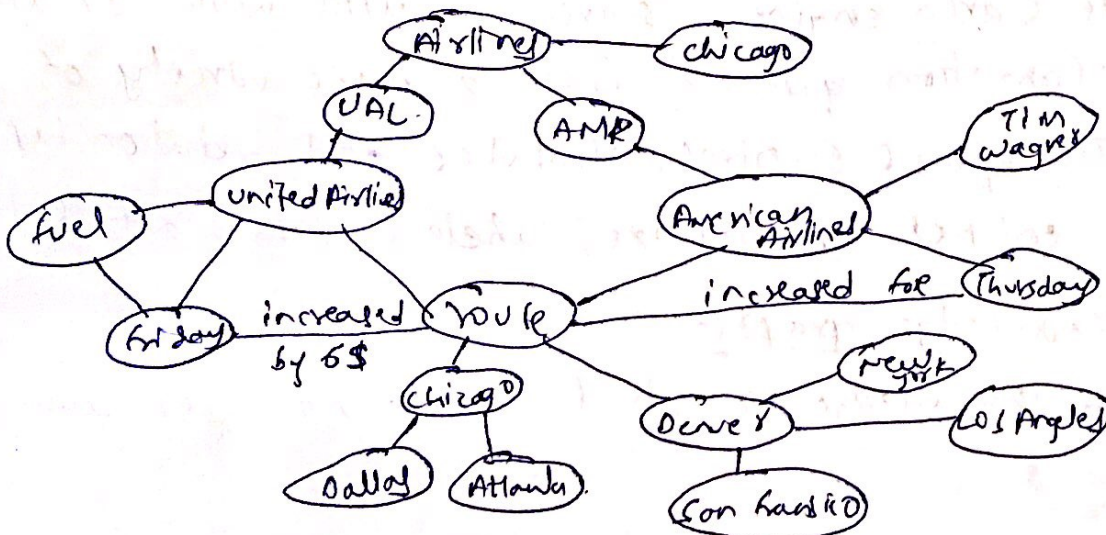
data which can be further classified. It represents the schema of the data without representing the inner details of the text.

The schema knowledge graph for the text mentioned is represented below.



Data knowledge graph:

The Data knowledge graph the data is represented by its innermost details. The complete representation of the data is shown in the leaf node.



2A)

1) What

Q) What is the reason for increase in fare rates?

A) High fuel prices

2) Where

Q) Where the increase effects?

A) Flight routes from Chicago to Dallas and Atlanta

Flight routes from Denver to San Francisco, Los Angeles & New York

3) When

Q) When is the increase in fuel rates mentioned by Tim Wagner?

A) Thursday night

4) Who

Q) Who said American Airlines, a unit AMR immediately matched the move?

A) Tim Wagner

5) How

Q) How the increase in the fuel price effected the Airlines?

A) They have increased the fare rates

6) How much

Q) How much is the increase in the fare rate for round trip?

A) 6\$

7) Yes/NO

Q) If the fuel price increased leads to increase in the fare?

A) Yes