

# CIS 5500: Database and Information Systems

## Homework 2: Relational DB Design

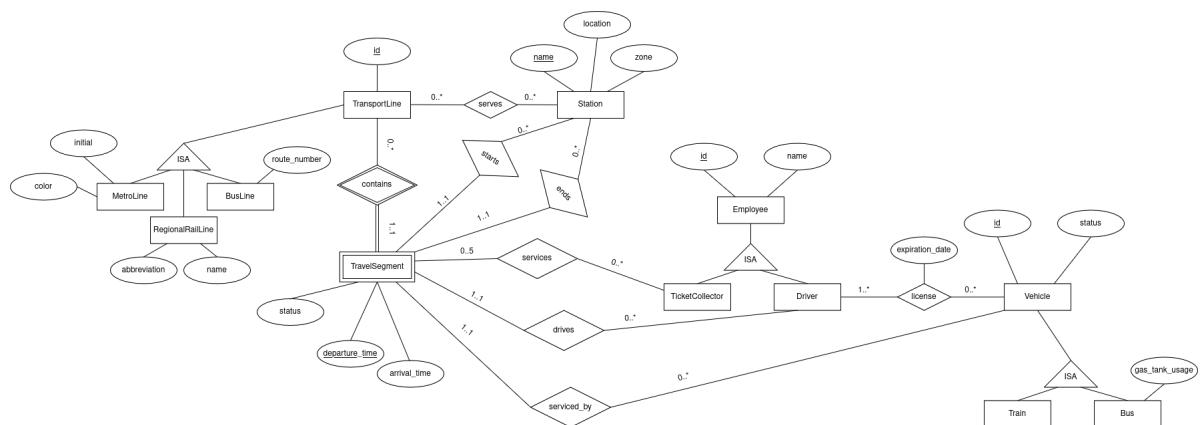
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### 1. Question 1 (30 points)

A. (20 points)



B. (5 points)

**Ans:** It is possible to have a start or end stop that does not have a TransportLine assigned to it. We can add a not exists constraint to the stations table to check that a station can be a stop if and only if it exists in the TransportLine table **double check this!**

C. (5 points)

**Ans:** Add an attribute to the relationship `serves` that is called `no_of_platforms`. We also add an attribute to the `Station` entity set `maximum_no_of_platforms`. We add a constraint that ensures that `no_of_platforms` is less than or equal to `maximum_no_of_platforms`.

## 2. Question 2 (20 points)

A. 12 points

B. 4 points

C. 4 points

**3. Question 3 (40 points)**

- A. 4 points
- B. 4 points
- C. 6 points
- D. 5 points
- E. 2 points
- F. 2 points
- G. 12 points
- H. 5 points