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Lab Task 1:

Step #1:

Convert strong entity into relations

- State (<u>state_name</u>, region)
- Congressperson (<u>name</u>, district, party, start_date)
- Bill (<u>bill_name</u>, status, date_of_vote)

Step #2:

No weak entity exists

Step #3:

No 1:1 relationship.

Step #4:

Converting 1:N relationship

Congressperson (<u>name</u>, district, party, start_date, state_name)

Step #5:

Convert M:N relationship, creating new entities for this.

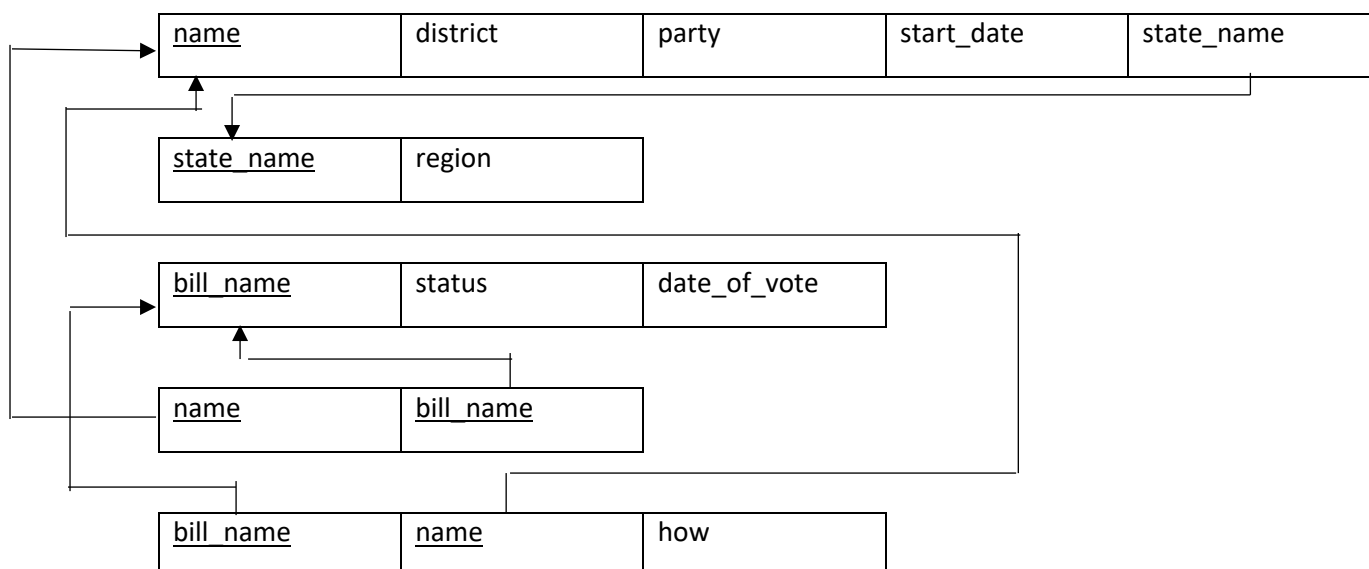- vote (<u>name</u>, <u>bill_name</u>, how)
- sponsor (<u>name</u>, <u>bill_name</u>)

Step #6:

No multi value attributes

Step #7:

No n-ary relationship.

Final State:

name	district	party	start_date	state_name

state_name	region

bill_name	status	date_of_vote

name	bill_name

bill_name	name	how

Lab Task 2:

Step #1:

Creating strong entities:

- College (<u>college_name</u>)
- Student (<u>student_name</u>)

- Degree (<u>degree_name</u>)

Step #2:

Creating weak entities

- Attendance (<u>college_name</u>, <u>student_name</u>, <u>degree_name</u>, <u>start_date</u>, end_date)
- Transcript (<u>partial_key</u>, <u>start_date</u>, grade)

Step #3:

No 1:1 relationship exists.

Step #4:

There are 1:N relationships but they have been defined through weak entities in Step#2.

Step #5:

Only 1 M:N relationship has not been defined yet through weak entities. It is as follows:

- Degrees (<u>degree_name</u>, <u>start_date</u>, month, year)

Step #6:

The partial_key in transcript relation is the only multi-value attribute in this database. Making another table for this.

- Transcript_partialKey (<u>partial_key</u>, course_name, semester, year)

Step #7:

No n-ary relationships

Final State:

college_name

student_name

degree_name

college_name	student_name	degree_name	start_date	end_date

partial_key	start_date	grade

degree_name	start_date	month	year

partial_key	course_name	semester	year