Problem

You are asked to build a software for Scaler which can handle some base requirements.

The requirements are as follows:

1. Scaler will have multiple batches.
2. For each batch, we need to store the name, start month and current instructor.
3. Each batch of Scaler will have multiple students.
4. Each batch has multiple classes.
5. For each class, store the name, date and time, instructor of the class.
6. For every student, we store their name, graduation year, University name, email, phone number.
7. Every student has a buddy, who is also a student.
8. A student may move from one batch to another.
9. For each batch a student moves to, the date of starting is stored.
10. Every student has a mentor.
11. For every mentor, we store their name and current company name.
12. Store information about all mentor sessions (time, duration, student, mentor, student rating, mentor rating).
13. For every batch, store if it is an Academy-batch or a DSML-batch.

Solution

Tables:

Batches

- Batch_id
- Name
- Start_month
- Current_instructor
- Batch_type_id
- Primary Key(Batch_id)

Students

- student_id
- name

- graduation_year
- University_name
- email
- Phone_number
- batch_id
- Buddy_id
- Primary Key(student_id)

Classes

- Class_id
- Name
- Date
- Time
- Instructor
- Primary Key(Class_id)

Mentors

- Mentor_id
- Name
- Current_company
- Primary Key(Mentor_id)

Mentor_Sessions

- mentor_session_id
- time
- Duration
- Student_id
- Mentor_id
- Student_rating
- Mentor_rating
- Primary Key(mentor_session_id)

Batches_Classes

- Batch_id
- Class_id
- Primary Key(Batch_id, Class_id)

Student_batch_history

- student_id
- batch_id
- Shift_date
- Primary Key(student_id, batch_id)

Batch_type

- Batch_type_id
- Batch_type
- Primary Key(Batch_type_id)

Foreign Keys:

- Batches(batch_type_id) refers Batch_type(batch_type_id)
- Students(batch_id) refers Batches(batch_id)
- Mentor_Sessions(Student_id) refers Students(Student_id)
- Mentor_Sessions(Mentor_id) refers Mentors(Mentor_id)
- Batches_Classes(Batch_id) refers Batches(batch_id)
- Batches_Classes(student_id) refers Students(Student_id)
- Student_batch_history(student_id) refers Students(Student_id)
- Student_batch_history(batch_id) refers Batches(batch_id)

Cardinality of Relations:

- Between Batches and Batch_type -> m:1
- Between Students and Batches -> m:1
- Between Batches and Classes -> m:m