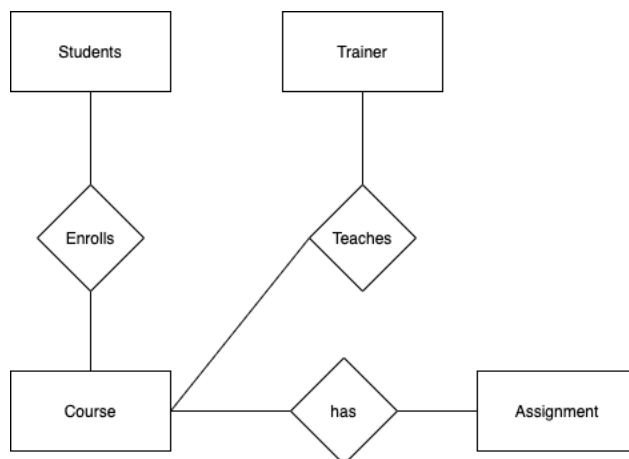


Entities of the Database

- Student
- Trainer
- Assignment
- Course

Relationship of Entities

- Student **enrolls** to a course
- Course **has** assignments
- The trainer **teaches** a course

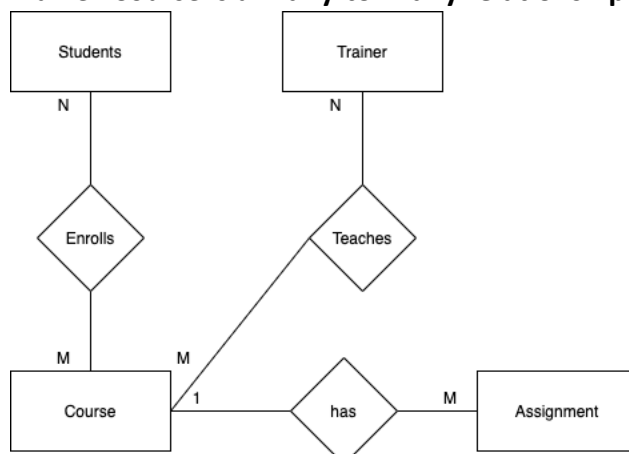


Cardinalities of Entities

A student can enroll to many courses and courses can have many students
Student – Course is a **Many-to-Many relationship**

Course can have many assignments, but an assignment belongs to one course
Course-Assignment is a **one to many relationship**

Trainer can teach many courses and course can be taught by many trainers
Trainer-Course is a **Many-to-Many relationship**



Attributes of the Entities

Student-> Primary key: Student_id

Student Attributes : first_name, last_name, date_of_birth, tuition_fees

Trainer->Primary Key: trainer_id

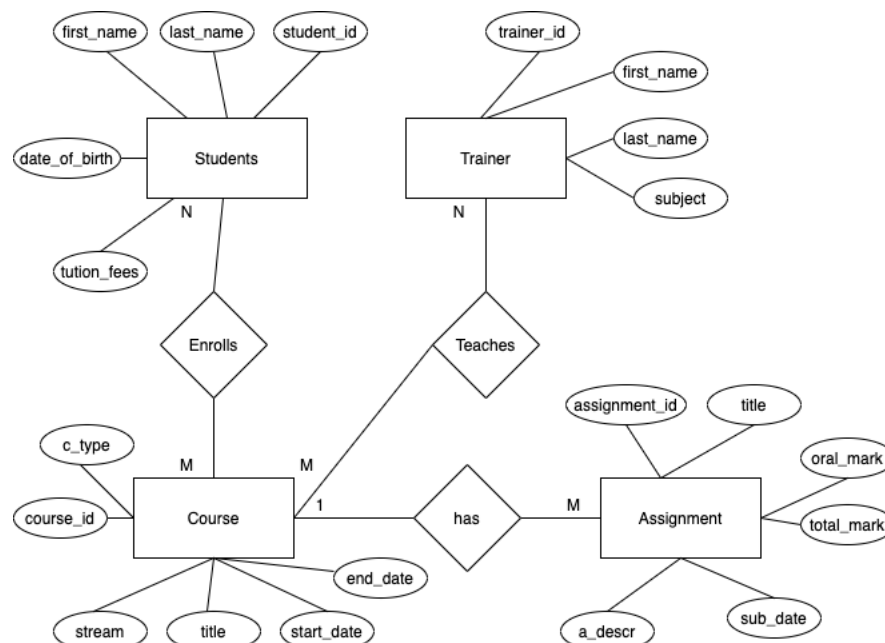
Trainer Attributes: first_name, last_name, subject

Course->Primary key: course_id

Course Attributes: title, stream, course_type, start_date, end_date

Assignment->Primary key: assignment_id

Assignment Attributes: Title, a_descr, sub_date, oral_mark, total_mark



Identification of other tables based on the relationships and construct them

Table: students_per_course.

Student and Course have a **many-to-many relationship**. This has as a result to create a new table. New table will have two foreign keys from student and course tables. For example, the foreign keys will be course_id from tables Course and student_id from table Student.

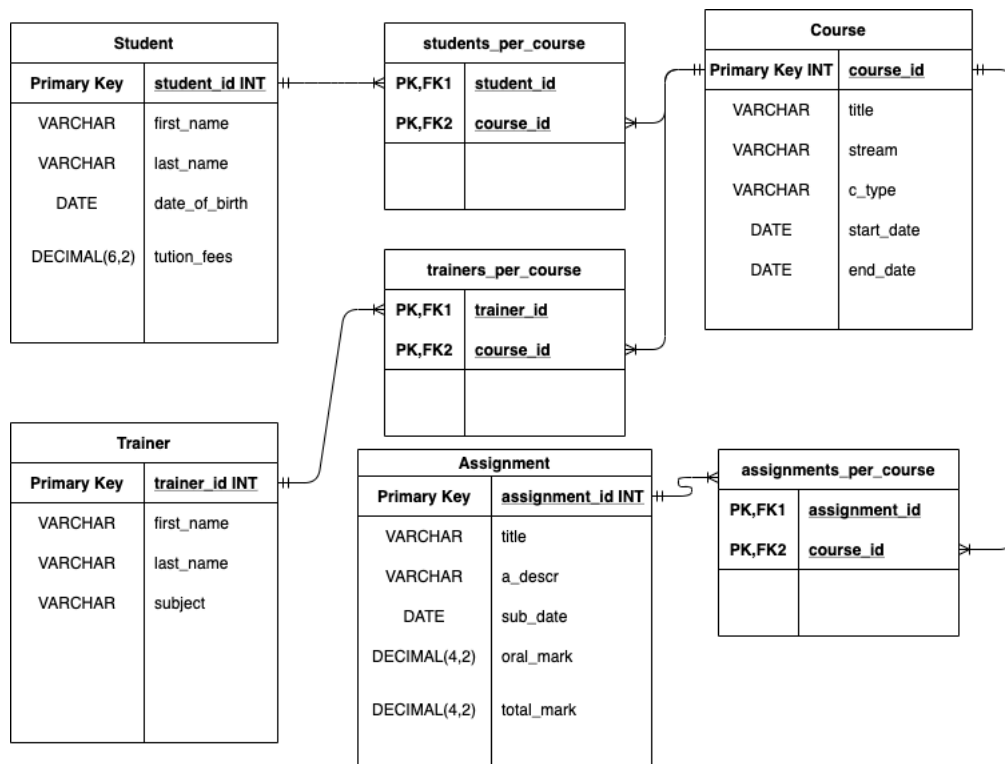
Table: trainers_per_course

Trainer and Course have a **many-to-many relationship**. This has as a result to create a new table. New table will have two foreign keys from trainer and course tables. For example, the foreign keys will be course_id from tables Course and trainer_id from table Trainer.

Table: assignments_per_course

Assignments and course have a **one-to-many relationship**. A new table will be created having two foreign keys, course_id from tables course and assignment_id from assignments

Building the ERD Diagram using online tool draw.io



ERD Diagram from MySQL Workbench

