Assignment 3

Course: **2dv513**

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Reference to the video project**:** https://youtu.be/1fOFixBBSMY

GitHub source-code**:** https://github.com/Ahmadooof/2dv513-Assignment-3

Contents

Task 1:

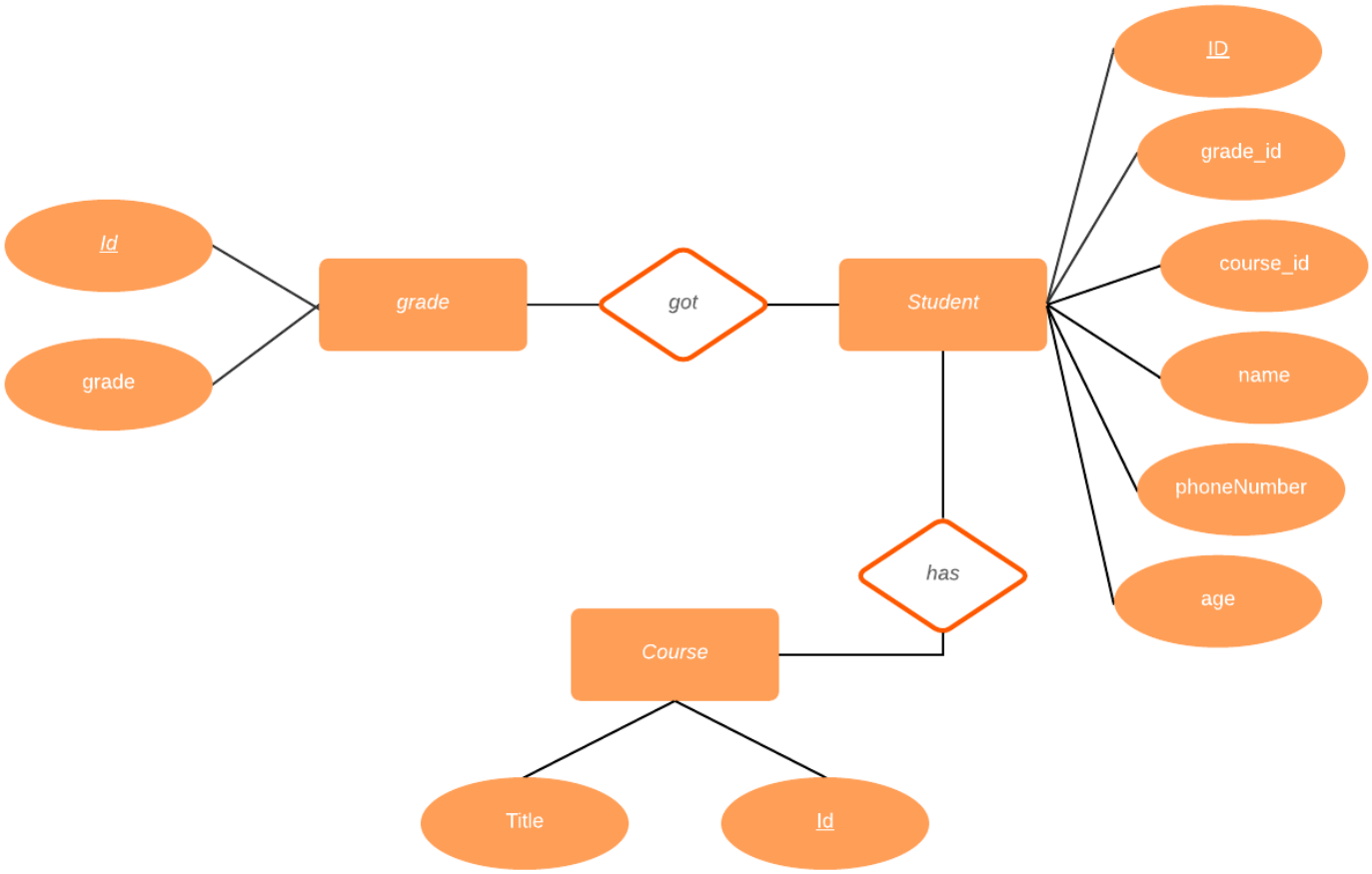
The idea is about storing students grade in database, also their information, and which courses they have. The main used will can be a teacher who is going to store students grade in the system, also the other user can be the Admin, who is responsible to store new student in the database as long as there is new student register in the school, also other users could be the students which they can see what grades they got from the system.

The **back-end** done in Node.js environment.

The **Front-end** done in Angular framework.

I have used **MySql** server to run the database, also I have used HeidiSql software for showing the tables and the data.

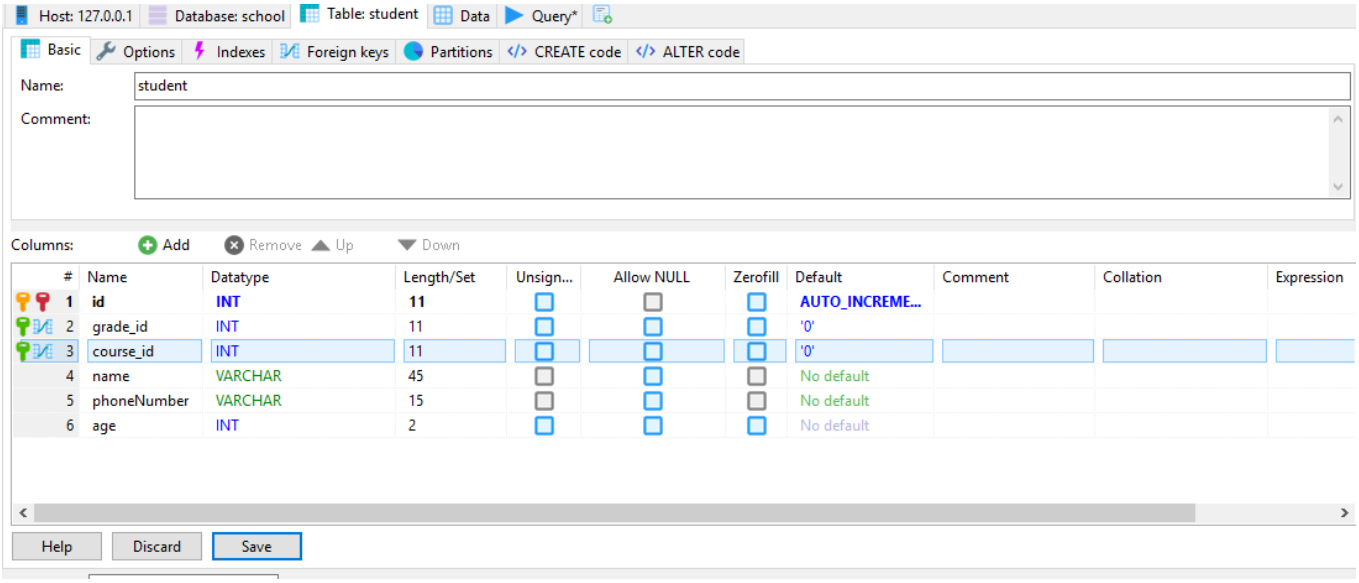
Task 2:



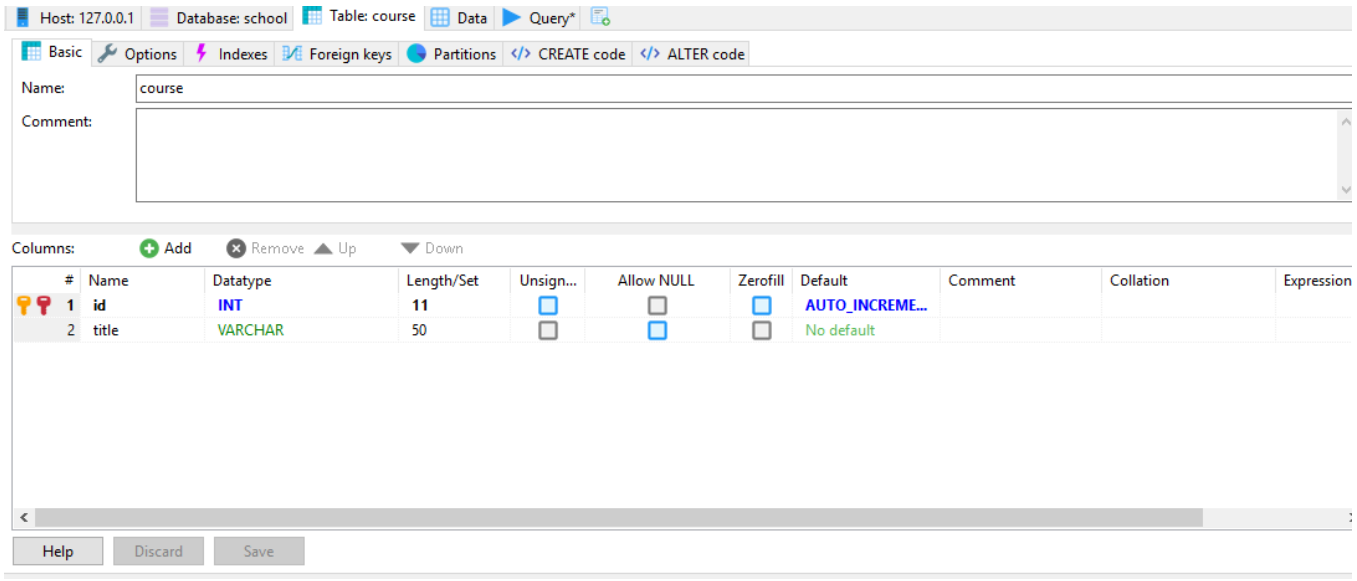
- “Has” relationship is many to many because the student could have more than one course
- “Got” relationship is many to many as well because the student could get more than one grade for each course he has.
- We have primary key for each entity
- Foreign keys for course and grade entities are exists in student entity.

Task 3:

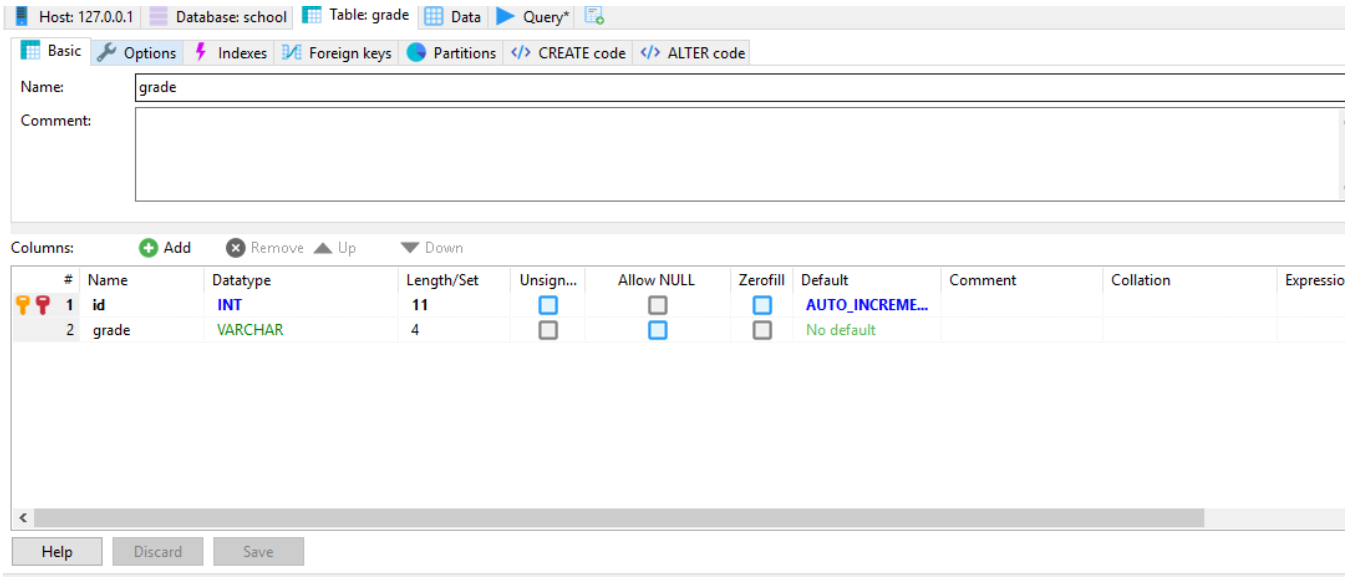
- for the student entity I translate it to a table in and for each attribute, it becomes a column in this table
- here we have foreign keys comes from the course and grade entities.
- We have auto increment for the student id.
- Phone Number is a varchar because integer cannot handle it.



- I transferred the course entity to a table and for each attribute in the table it becomes a column



- Also, the same process applied to the grade entity which I translate it to a table.



Task 4:

I have used these queries regarding to the requirements:

1. ```
   SELECT * FROM student INNER JOIN course ON course.id = student.course_id
   INNER JOIN grade ON grade.id = student.grade_id
   ```

2. ```
   SELECT * FROM student INNER JOIN course ON course.id = student.course_id
   ```

3. ```
   SELECT * FROM student inner JOIN course ON student.course_id = course.id
   ORDER BY student.name
   ```

4. ```
   SELECT title,COUNT(course_id) AS NumberOfStudents FROM student inner JOIN
   course ON course.id = student.course_id GROUP BY title
   ```

5. ```
   CREATE VIEW Students_who_pass AS SELECT name, grade from student inner
   join grade ON grade.id = grade_id WHERE grade > 50
   ```
   ```

Task 6

Reference to the video project: https://youtu.be/1fOFixBBSMY

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