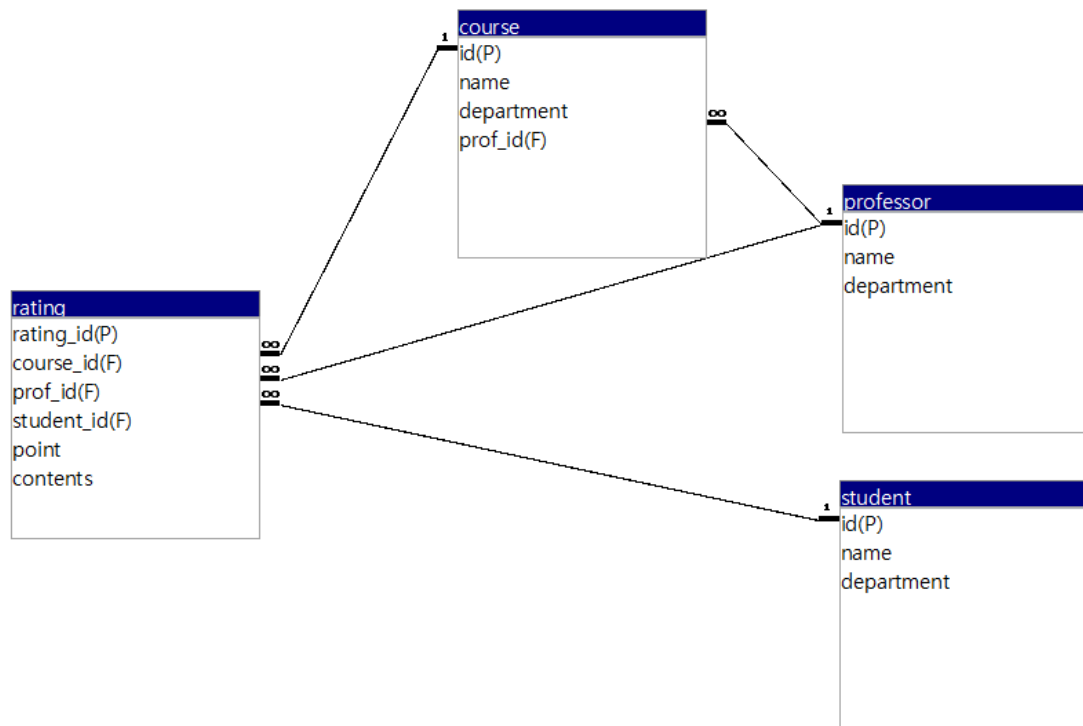# Database (02) Project Report

Team SQLsamurai

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Hyunsoo Bang(1916011)
Seoyeon Lee(2076255)

1. ER Diagram of database schema

Table Descriptions:

Professor Table:

Columns: id (varchar(3)), name (varchar(100)), department (varchar(200))

Key: id (PRIMARY KEY)

Index: id

Course Table:

Columns: id (varchar(6)), title (varchar(200)), department (varchar(200)), prof_id (varchar(3))

Key: id (PRIMARY KEY)

Foreign Key: prof_id (REFERENCES professor(id))

Index: id

Student Table:

Columns: id (varchar(7)), name (varchar(200)), department (varchar(200))

Key: id (PRIMARY KEY)

Index: id

Rating Table:

Columns: rating_id (int AUTO_INCREMENT), course_id (varchar(6)), prof_id (varchar(3)), student_id (varchar(7)), point (numeric(3,2)), contents (varchar(1000))

Key: rating_id (PRIMARY KEY)

Foreign Keys: course_id (REFERENCES course(id)), prof_id (REFERENCES professor(id)), student_id (REFERENCES student(id))

Table Relationships:

Course-Rating Relationship:

The Course table and the Rating table have a one-to-many relationship.

One course can have multiple ratings, but each rating belongs to only one course.

This relationship is represented by the course_id column in the Rating table, which references the id column in the Course table.

Course-Professor Relationship:

The Course table and the Professor table have a one-to-many relationship.

One course is taught by only one professor, but each professor can teach multiple courses.

This relationship is represented by the prof_id column in the Course table, which references the id column in the Professor table.

Professor-Rating Relationship:

The Professor table and the Rating table have a one-to-many relationship.

One professor can receive multiple ratings, but each rating is associated with only one professor.

This relationship is represented by the prof_id column in the Rating table, which references the id column in the Professor table.

Student-Rating Relationship:

The Student table and the Rating table have a one-to-many relationship.

One student can provide multiple ratings, but each rating is associated with only one student.

This relationship is represented by the student_id column in the Rating table, which references the id column in the Student table.

2. simple Java code structure explanation

classes

class User
  func User
  func getName
  func setName
  func getNumber
  func setNumber

User Class for User Creation
getName and getNumber:
receive the user's name and student number as input
setName and setNumber:
set the user's name and student number
User creates a new User object with name and number

class Welcome
  func main
  func menuIntroduction
  func menuGuestInfo
  func searchECE
  func searchCourse
  func searchContents
  func searchAverageRating
  func modifyECE
  func insertECE
  func deleteECE
  func menuExit

Welcome Class for the use of course evaluation system
main: method of executing full program
menuIntroduction: method of printing menu description
menuGuestInfo: method of printing current user
searchECE: method of searching for lecture evaluation
searchCourse: method of searching for lecture evaluation by lecture name and professor name
searchContents: method of searching for lecture evaluations by lecture content
searchAverageRating: method for searching the average lecture evaluation of a lecture
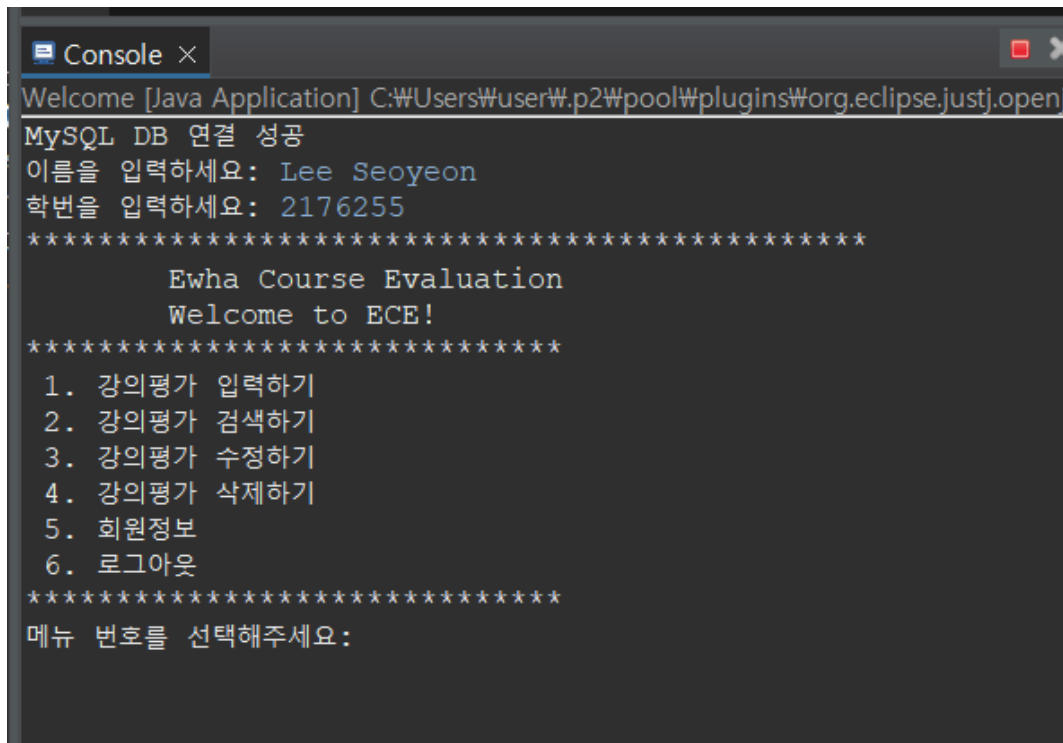
modifyECE: method of modifying lecture evaluations

insertECE: method of inputting lecture evaluations

deleteECE: method of deleting lecture evaluations
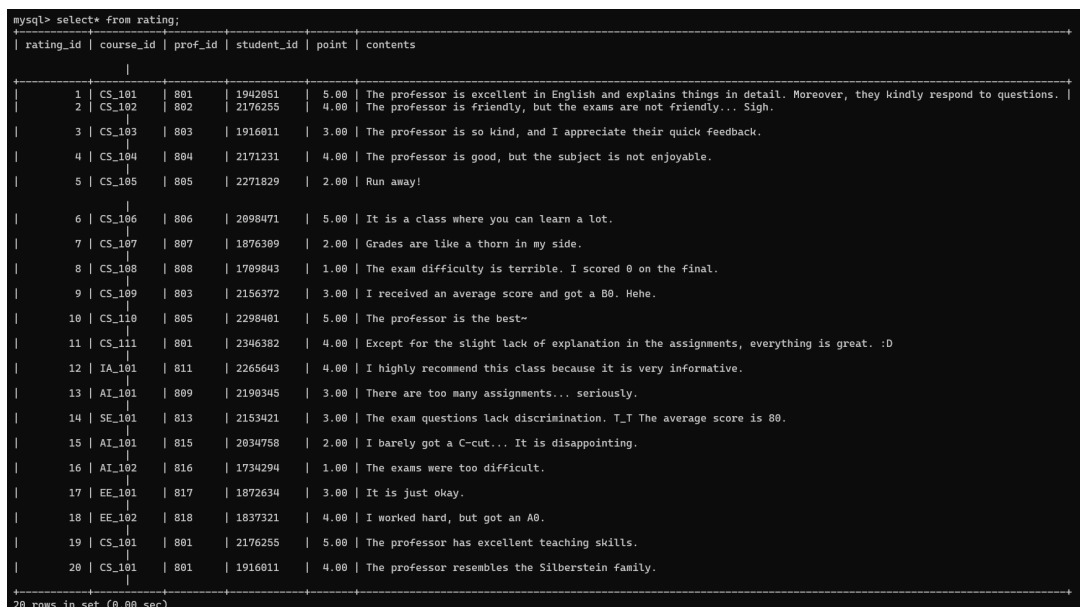
menuExit: method of logout and closing sql

3. screen capture of execution result for each menu

1) Log in

2) Rating table before inserting a lecture evaluation

3) inserting a lecture evaluation

```
학번을 입력하세요: 2170255
************************************************
        Ewha Course Evaluation
        Welcome to ECE!
******************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
******************************
메뉴 번호를 선택해주세요: 1
<< 강의 목록 >>
강의 ID: AI_101, 강의명: Pattern Recognition, 교수: Yunjung Choi
강의 ID: AI_102, 강의명: AI Programming, 교수: Dongbo Min
강의 ID: CB_101, 강의명: Introduction to Cyber Security, 교수: Jinwook Kwon
강의 ID: CS_101, 강의명: Database, 교수: Minsoo Lee
강의 ID: CS_102, 강의명: Database, 교수: Hyungjoon Lee
강의 ID: CS_103, 강의명: Capstone Design and Entrepreneurship Project, 교수: Jaehyung Shim
강의 ID: CS_104, 강의명: Operating Systems, 교수: Hyunsu Kim
강의 ID: CS_105, 강의명: Software Engineering, 교수: Sookyung Lee
강의 ID: CS_106, 강의명: Information and Communication Engineering, 교수: Myungguk Yoon
강의 ID: CS_107, 강의명: Discrete Mathematics, 교수: Youngrok Song
강의 ID: CS_108, 강의명: Computer Networks, 교수: Kyuhong Kim
강의 ID: CS_109, 강의명: Data Structures, 교수: Jaehyung Shim
강의 ID: CS_110, 강의명: Computer Architecture, 교수: Sookyung Lee
강의 ID: CS_111, 강의명: Computer Algorithms, 교수: Minsoo Lee
강의 ID: EE_101, 강의명: Integrated Circuit Design, 교수: Inki Lee
강의 ID: EE_102, 강의명: Integrated Circuit Design, 교수: Dongsung Kim
강의 ID: EE_103, 강의명: Comprehensive Design in Electronic Engineering, 교수: Byungju Choi
강의 ID: EE_104, 강의명: Electronic Circuit Experiment, 교수: Sookhee Yang
강의 ID: IA_101, 강의명: Introduction to International Affairs, 교수: Jihyun Park
강의 ID: SE_101, 강의명: Introduction to Social Science Education, 교수: Yuran Oh
평가하고 싶은 강의 ID를 입력하세요: EE_104
강의 평점을 입력하세요: 3
강의평 내용을 입력하세요: good

강의평이 성공적으로 추가되었습니다.
```

4) rating table after inserting a lecture evaluation

```
mysql> select* from rating;
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
| rating_id | course_id | prof_id | student_id | point | contents                                                                                           |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
|         1 | CS_101    | 801     | 1942051    |  5.00 | The professor is excellent in English and explains things in detail. Moreover, they kindly respond to questions. |
|         2 | CS_102    | 802     | 2176255    |  4.00 | The professor is friendly, but the exams are not friendly... Sigh.                                  |
|         3 | CS_103    | 803     | 1916011    |  3.00 | The professor is so kind, and I appreciate their quick feedback.                                    |
|         4 | CS_104    | 804     | 2171231    |  4.00 | The professor is good, but the subject is not enjoyable.                                            |
|         5 | CS_105    | 805     | 2271829    |  2.00 | Run away!                                                                                           |
|         6 | CS_106    | 806     | 2098471    |  5.00 | It is a class where you can learn a lot.                                                            |
|         7 | CS_107    | 807     | 1876309    |  2.00 | Grades are like a thorn in my side.                                                                 |
|         8 | CS_108    | 808     | 1709843    |  1.00 | The exam difficulty is terrible. I scored 0 on the final.                                           |
|         9 | CS_109    | 803     | 2156372    |  3.00 | I received an average score and got a B0. Hehe.                                                     |
|        10 | CS_110    | 805     | 2298401    |  5.00 | The professor is the best~                                                                          |
|        11 | CS_111    | 801     | 2346382    |  4.00 | Except for the slight lack of explanation in the assignments, everything is great. :D               |
|        12 | IA_101    | 811     | 2265643    |  4.00 | I highly recommend this class because it is very informative.                                       |
|        13 | AI_101    | 809     | 2190345    |  3.00 | There are too many assignments... seriously.                                                        |
|        14 | SE_101    | 813     | 2153421    |  3.00 | The exam questions lack discrimination. T_T The average score is 80.                                |
|        15 | AI_101    | 815     | 2034758    |  2.00 | I barely got a C-cut... It is disappointing.                                                        |
|        16 | AI_102    | 816     | 1734294    |  1.00 | The exams were too difficult.                                                                       |
|        17 | EE_101    | 817     | 1872634    |  3.00 | It is just okay.                                                                                    |
|        18 | EE_102    | 818     | 1837321    |  4.00 | I worked hard, but got an A0.                                                                       |
|        19 | CS_101    | 801     | 2176255    |  5.00 | The professor has excellent teaching skills.                                                        |
|        20 | CS_101    | 801     | 1916011    |  4.00 | The professor resembles the Silberstein family.                                                     |
|        21 | EE_104    | 820     | 2176255    |  3.00 | good                                                                                               |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
21 rows in set (0.00 sec)
```

5) searching by lecture name and professor name

```
**************************************************
       Ewha Course Evaluation
       Welcome to ECE!
****************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
****************************
메뉴 번호를 선택해주세요: 2
1. 강의명 및 교수명으로 검색하기
2. 강의내용으로 검색하기
3. 강의명 및 교수명으로 평균 강의평 검색하기
검색할 번호를 입력하세요: 1
검색할 강의명을 입력하세요: Database
검색할 교수님 성함을 입력하세요: Minsoo Lee
|--------------------------
강의 ID: CS_101
강의명: Database
교수 이름: Minsoo Lee
학생 ID: 1942051
평점: 5.0
강의평 내용: The professor is excellent in English and explains things in detail. Moreover, they kindly respond to questions.
--------------------------
강의 ID: CS_101
강의명: Database
교수 이름: Minsoo Lee
학생 ID: 2176255
평점: 5.0
강의평 내용: The professor has excellent teaching skills.
--------------------------
강의 ID: CS_101
강의명: Database
교수 이름: Minsoo Lee
학생 ID: 1916011
평점: 4.0
강의평 내용: The professor resembles the Silberstein family.
--------------------------
**************************************************
```

6) Searching by lecture contents

```
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
****************************
메뉴 번호를 선택해주세요: 2
1. 강의명 및 교수명으로 검색하기
2. 강의내용으로 검색하기
3. 강의명 및 교수명으로 평균 강의평 검색하기
검색할 번호를 입력하세요: 2
강의내용을 입력하세요: exam
--------------------------
강의 ID: CS_102
강의명: Database
교수 이름: Hyungjoon Lee
학생 ID: 2176255
평점: 4.0
강의평 내용: The professor is friendly, but the exams are not friendly... Sigh.
--------------------------
강의 ID: CS_108
강의명: Computer Networks
교수 이름: Kyuhong Kim
학생 ID: 1709843
평점: 1.0
강의평 내용: The exam difficulty is terrible. I scored 0 on the final.
--------------------------
강의 ID: SE_101
강의명: Introduction to Social Science Education
교수 이름: Yuran Oh
학생 ID: 2153421
평점: 3.0
강의평 내용: The exam questions lack discrimination. T_T The average score is 80.
--------------------------
강의 ID: AI_102
강의명: AI Programming
교수 이름: Dongbo Min
학생 ID: 1734294
평점: 1.0
강의평 내용: The exams were too difficult.
--------------------------
```

7) Searching for the average lecture review score by lecture name and professor name

```
*****************************************************
        Ewha Course Evaluation
        Welcome to ECE!
*********************************
  1. 강의평가 입력하기
  2. 강의평가 검색하기
  3. 강의평가 수정하기
  4. 강의평가 삭제하기
  5. 회원정보
  6. 로그아웃
*********************************
메뉴 번호를 선택해주세요: 2
1. 강의명 및 교수명으로 검색하기
2. 강의내용으로 검색하기
3. 강의명 및 교수명으로 평균 강의평 검색하기
검색할 번호를 입력하세요: 3
과목명을 입력하세요: Database
교수명을 입력하세요: Minsoo Lee
----------------------------
평균 강의평: 4.67
*****************************************************
        Ewha Course Evaluation
        Welcome to ECE!
*********************************
  1. 강의평가 입력하기
  2. 강의평가 검색하기
  3. 강의평가 수정하기
  4. 강의평가 삭제하기
  5. 회원정보
  6. 로그아웃
*********************************
```

8) Rating table before modifying a lecture evaluation

```
mysql> select* from rating;
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
| rating_id | course_id | prof_id | student_id | point | contents                                                                                           |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
|         1 | CS_101    | 801     | 1942051    |  5.00 | The professor is excellent in English and explains things in detail. Moreover, they kindly respond to questions. |
|         2 | CS_102    | 802     | 2176255    |  4.00 | He is a good professor                                                                             |
|         3 | CS_103    | 803     | 1916011    |  3.00 | The professor is so kind, and I appreciate their quick feedback.                                   |
|         4 | CS_104    | 804     | 2171231    |  4.00 | The professor is good, but the subject is not enjoyable.                                           |
|         5 | CS_105    | 805     | 2271829    |  2.00 | Run away!                                                                                          |
|         6 | CS_106    | 806     | 2098471    |  5.00 | It is a class where you can learn a lot.                                                           |
|         7 | CS_107    | 807     | 1876309    |  2.00 | Grades are like a thorn in my side.                                                                |
|         8 | CS_108    | 808     | 1709843    |  1.00 | The exam difficulty is terrible. I scored 0 on the final.                                          |
|         9 | CS_109    | 803     | 2156372    |  3.00 | I received an average score and got a B0. Hehe.                                                    |
|        10 | CS_110    | 805     | 2298401    |  5.00 | The professor is the best~                                                                         |
|        11 | CS_111    | 801     | 2346382    |  4.00 | Except for the slight lack of explanation in the assignments, everything is great. :D              |
|        12 | IA_101    | 811     | 2265643    |  4.00 | I highly recommend this class because it is very informative.                                      |
|        13 | AI_101    | 809     | 2190345    |  3.00 | There are too many assignments... seriously.                                                      |
|        14 | SE_101    | 813     | 2153421    |  3.00 | The exam questions lack discrimination. T_T The average score is 80.                               |
|        15 | AI_101    | 815     | 2034758    |  2.00 | I barely got a C-cut... It is disappointing.                                                       |
|        16 | AI_102    | 816     | 1734294    |  1.00 | The exams were too difficult.                                                                      |
|        17 | EE_101    | 817     | 1872634    |  3.00 | It is just okay.                                                                                   |
|        18 | EE_102    | 818     | 1837321    |  4.00 | I worked hard, but got an A0.                                                                      |
|        19 | CS_101    | 801     | 2176255    |  5.00 | The professor has excellent teaching skills.                                                       |
|        20 | CS_101    | 801     | 1916011    |  4.00 | The professor resembles the Silberstein family.                                                   |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
20 rows in set (0.00 sec)
```

9) modifying a lecture evaluation

```
력하세요:
*************************************************
        Ewha Course Evaluation
        Welcome to ECE!
        Logged in as: Lee Seoyeon
*******************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
*******************************
메뉴 번호를 선택해주세요: 3

다음은 Lee Seoyeon님이 남기신 강의평 목록입니다.

강의평 ID: 2
강의명: Database
교수 이름: Hyungjoon Lee
평점: 4.0
강의평 내용: He is a good professor
-----------------------------
강의평 ID: 19
강의명: Database
교수 이름: Minsoo Lee
평점: 5.0
강의평 내용: The professor has excellent teaching skills.
-----------------------------
강의평을 수정할 ID와 새로운 강의평 내용, 평점을 입력하세요.
강의평 ID: 2
새로운 평점: 5
새로운 강의평 내용: Very Good
강의평 수정이 완료되었습니다.
```

10) Rating table after modifying a lecture evaluation and before deleting a lecture evaluation

```
mysql> select* from rating;
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
| rating_id | course_id | prof_id | student_id | point | contents                                                                                           |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
|         1 | CS_101    |     801 |    1942851 |  5.00 | The professor is excellent in English and explains things in detail. Moreover, they kindly respond to questions. |
|         2 | CS_102    |     802 |    2176255 |  5.00 | Very Good                                                                                          |
|         3 | CS_103    |     803 |    1916011 |  3.00 | The professor is so kind, and I appreciate their quick feedback.                                   |
|         4 | CS_104    |     804 |    2171231 |  4.00 | The professor is good, but the subject is not enjoyable.                                           |
|         5 | CS_105    |     805 |    2271829 |  2.00 | Run away!                                                                                          |
|         6 | CS_106    |     806 |    2098471 |  5.00 | It is a class where you can learn a lot.                                                           |
|         7 | CS_107    |     807 |    1876309 |  2.00 | Grades are like a thorn in my side.                                                                |
|         8 | CS_108    |     808 |    1709843 |  1.00 | The exam difficulty is terrible. I scored 0 on the final.                                          |
|         9 | CS_109    |     803 |    2156372 |  3.00 | I received an average score and got a B0. Hehe.                                                    |
|        10 | CS_110    |     805 |    2298401 |  5.00 | The professor is the best~                                                                         |
|        11 | CS_111    |     801 |    2346382 |  4.00 | Except for the slight lack of explanation in the assignments, everything is great. :D              |
|        12 | IA_101    |     811 |    2265643 |  4.00 | I highly recommend this class because it is very informative.                                      |
|        13 | AI_101    |     809 |    2190345 |  3.00 | There are too many assignments... seriously.                                                       |
|        14 | SE_101    |     813 |    2153421 |  3.00 | The exam questions lack discrimination. T_T The average score is 80.                               |
|        15 | AI_101    |     815 |    2034758 |  2.00 | I barely got a C-cut... It is disappointing.                                                       |
|        16 | AI_102    |     816 |    1734294 |  1.00 | The exams were too difficult.                                                                      |
|        17 | EE_101    |     817 |    1872634 |  3.00 | It is just okay.                                                                                   |
|        18 | EE_102    |     818 |    1837321 |  4.00 | I worked hard, but got an A0.                                                                      |
|        19 | CS_101    |     801 |    2176255 |  5.00 | The professor has excellent teaching skills.                                                       |
|        20 | CS_101    |     801 |    1916011 |  4.00 | The professor resembles the Silberstein family.                                                    |
+-----------+-----------+---------+------------+-------+----------------------------------------------------------------------------------------------------+
20 rows in set (0.00 sec)
```

11) Deleting a lecture evaluation


```
*****************************************
        Ewha Course Evaluation
        Welcome to ECE!
        Logged in as: Lee Seoyeon
*****************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
*****************************
메뉴 번호를 선택해주세요:  4

다음은 Lee Seoyeon님이 남기신 강의평 목록입니다.

강의평 ID: 2
강의명: Database
교수 이름: Hyungjoon Lee
평점: 5.0
강의평 내용: Very Good
----------------------------
강의평 ID: 19
강의명: Database
교수 이름: Minsoo Lee
평점: 5.0
강의평 내용: The professor has excellent teaching skills.
----------------------------
삭제할 강의평 ID를 입력하세요: 19
강의평 삭제가 완료되었습니다.
*****************************************
```

12) Rating table after deleting a lecture evaluation


```
mysql> select* from rating;
+-----------+-----------+---------+------------+-------+------------------------------------------------------------------------------------------------------+
| rating_id | course_id | prof_id | student_id | point | contents                                                                                             |
+-----------+-----------+---------+------------+-------+------------------------------------------------------------------------------------------------------+
|         1 | CS_101    |     801 |    1942051 |  5.00 | The professor is excellent in English and explains things in detail. Moreover, they kindly respond to questions. |
|         2 | CS_102    |     802 |    2176255 |  5.00 | Very Good                                                                                            |
|         3 | CS_103    |     803 |    1916011 |  3.00 | The professor is so kind, and I appreciate their quick feedback.                                     |
|         4 | CS_104    |     804 |    2171231 |  4.00 | The professor is good, but the subject is not enjoyable.                                             |
|         5 | CS_105    |     805 |    2271829 |  2.00 | Run away!                                                                                            |
|         6 | CS_106    |     806 |    2098471 |  5.00 | It is a class where you can learn a lot.                                                             |
|         7 | CS_107    |     807 |    1876309 |  2.00 | Grades are like a thorn in my side.                                                                  |
|         8 | CS_108    |     808 |    1709843 |  1.00 | The exam difficulty is terrible. I scored 0 on the final.                                            |
|         9 | CS_109    |     803 |    2156372 |  3.00 | I received an average score and got a B0. Hehe.                                                      |
|        10 | CS_110    |     805 |    2298401 |  5.00 | The professor is the best~                                                                           |
|        11 | CS_111    |     801 |    2346382 |  4.00 | Except for the slight lack of explanation in the assignments, everything is great. :D                |
|        12 | IA_101    |     811 |    2265643 |  4.00 | I highly recommend this class because it is very informative.                                        |
|        13 | AI_101    |     809 |    2190345 |  3.00 | There are too many assignments... seriously.                                                         |
|        14 | SE_101    |     813 |    2153421 |  3.00 | The exam questions lack discrimination. T_T The average score is 80.                                 |
|        15 | AI_101    |     815 |    2034758 |  2.00 | I barely got a C-cut... It is disappointing.                                                         |
|        16 | AI_102    |     816 |    1734294 |  1.00 | The exams were too difficult.                                                                        |
|        17 | EE_101    |     817 |    1872634 |  3.00 | It is just okay.                                                                                     |
|        18 | EE_102    |     818 |    1837321 |  4.00 | I worked hard, but got an A0.                                                                        |
|        20 | CS_101    |     801 |    1916011 |  4.00 | The professor resembles the Silberstein family.                                                      |
+-----------+-----------+---------+------------+-------+------------------------------------------------------------------------------------------------------+
19 rows in set (0.00 sec)
```

13) Check current member information and log out

```
************************************************
        Ewha Course Evaluation
        Welcome to ECE!
        Logged in as: Lee Seoyeon
*******************************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
*******************************************
메뉴 번호를 선택해주세요: 5
현재 고객 정보 :
이름 Lee Seoyeon    학번 2176255
************************************************
        Ewha Course Evaluation
        Welcome to ECE!
        Logged in as: Lee Seoyeon
*******************************************
 1. 강의평가 입력하기
 2. 강의평가 검색하기
 3. 강의평가 수정하기
 4. 강의평가 삭제하기
 5. 회원정보
 6. 로그아웃
*******************************************
메뉴 번호를 선택해주세요: 6
로그아웃 되었습니다.
MySQL 연결 해제 성공
```

4. each person's responsibility

- Yudam Jo (create database and insert data, menu 2-3 and 4)
- Hyunsoo Bang (Welcome class, menu 2-1 and 3)
- Seoyeon Lee (modify sql files, menu 1 and 2-2)