

students(student_ID#,username,password)
 courses(Course_ID,Course_Name,Course_Credits,Department_ID(fk))
 departments(Department_ID#,Department_Head(fk))
 exams(Ex_ID#,course_ID(fk),Department_ID(fk),Prof_ID(fk))
 questions bank(Q_ID#,Answer,Question_Body)
 professors(Prof_ID#,Degree,Level)
 Professors_Courses(Prof_ID(fk)#,Course_ID(fk)#,PC_ID(U))
 Professor_Eval(PC_ID(fk)#,S_ID(fk)#,evaluation)
 Course_eval(S_ID(fk)#,C_ID(fk)#,evaluation)
 exams_questions(Q_ID(fk),Ex_ID(fk),grade,TimeToAnswer,EQ_ID(U))
 Students_Answers(Student_ID(fk)#,EQ_ID(fk)#,Student_Answer)

```

CREATE TABLE `dbproject`.`students` (
  `student_ID` INT NOT NULL,
  `username` VARCHAR(45) NOT NULL,
  `password` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`student_ID`),
  UNIQUE INDEX `student_ID_UNIQUE` (`student_ID` ASC) VISIBLE,
  UNIQUE INDEX `username_UNIQUE` (`username` ASC) VISIBLE);
  
```

```

CREATE TABLE `dbproject`.`departments` (
  `Department_ID` INT NOT NULL AUTO_INCREMENT,
  `Department_Head` VARCHAR(45) NULL,
  PRIMARY KEY (`Department_ID`),
  UNIQUE INDEX `Department_ID_UNIQUE` (`Department_ID` ASC) VISIBLE);
  
```

```

CREATE TABLE `dbproject`.`courses` (
  `Course_ID` INT NOT NULL AUTO_INCREMENT,
  `Course_Name` VARCHAR(45) NULL,
  `Course_Credits` VARCHAR(45) NULL,
  `Department_ID` INT NULL,
  PRIMARY KEY (`Course_ID`),
  UNIQUE INDEX `Course_ID_UNIQUE` (`Course_ID` ASC) VISIBLE,
  INDEX `Department_ID_idx` (`Department_ID` ASC) VISIBLE,
  CONSTRAINT `Department_ID`
    FOREIGN KEY (`Department_ID`)
      REFERENCES `dbproject`.`departments` (`Department_ID`)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION);

```

```

CREATE TABLE `dbproject`.`professors` (
  `Prof_ID` INT NOT NULL AUTO_INCREMENT,
  `Degree` VARCHAR(45) NULL,
  `Level` VARCHAR(45) NULL,
  PRIMARY KEY (`Prof_ID`),
  UNIQUE INDEX `Prof_ID_UNIQUE` (`Prof_ID` ASC) VISIBLE);

```

```

CREATE TABLE `dbproject`.`exams` (
  `Ex_ID` INT NOT NULL AUTO_INCREMENT,
  `course_ID(fk)` INT NOT NULL,
  `Department_ID(fk)` INT NOT NULL,
  PRIMARY KEY (`Ex_ID`),
  UNIQUE INDEX `Ex_ID_UNIQUE` (`Ex_ID` ASC) VISIBLE,
  INDEX `COURSE_idx` (`course_ID(fk)` ASC) VISIBLE,
  INDEX `Dep_idx` (`Department_ID(fk)` ASC) VISIBLE,
  CONSTRAINT `COURSE`
    FOREIGN KEY (`course_ID(fk)`)
      REFERENCES `dbproject`.`courses` (`Course_ID`)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION,
  CONSTRAINT `Dep`
    FOREIGN KEY (`Department_ID(fk)`)
      REFERENCES `dbproject`.`departments` (`Department_ID`)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION);

```

```
CREATE TABLE `dbproject`.`questions` (  
  `Q_ID` INT NOT NULL AUTO_INCREMENT,  
  `Answer` VARCHAR(45) NULL,  
  `Question_Body` VARCHAR(45) NULL,  
  PRIMARY KEY (`Q_ID`),  
  UNIQUE INDEX `Q_ID_UNIQUE` (`Q_ID` ASC) VISIBLE);
```

```
CREATE TABLE `dbproject`.`professors_courses` (  
  `Prof_ID` INT NOT NULL,  
  `Course_ID` INT NOT NULL,  
  `PC_ID` INT NULL AUTO_INCREMENT,  
  PRIMARY KEY (`Prof_ID`, `Course_ID`),  
  UNIQUE INDEX `PC_ID_UNIQUE` (`PC_ID` ASC) VISIBLE,  
  INDEX `Course_ID_idx` (`Course_ID` ASC) VISIBLE,  
  CONSTRAINT `prof_ID`  
    FOREIGN KEY (`Prof_ID`)  
    REFERENCES `dbproject`.`professors` (`Prof_ID`)  
    ON DELETE NO ACTION  
    ON UPDATE NO ACTION,  
  CONSTRAINT `Course_ID`  
    FOREIGN KEY (`Course_ID`)  
    REFERENCES `dbproject`.`courses` (`Course_ID`)  
    ON DELETE NO ACTION  
    ON UPDATE NO ACTION);
```

```
CREATE TABLE `dbproject`.`professor_eval` (  
  `PC_ID` INT NOT NULL,  
  `S_ID` INT NOT NULL,  
  `evaluation` VARCHAR(45) NULL,  
  PRIMARY KEY (`PC_ID`, `S_ID`),  
  INDEX `S_ID_idx` (`S_ID` ASC) VISIBLE,  
  CONSTRAINT `PC_ID`  
    FOREIGN KEY (`PC_ID`)  
    REFERENCES `dbproject`.`professors_courses` (`PC_ID`)  
    ON DELETE NO ACTION  
    ON UPDATE NO ACTION,  
  CONSTRAINT `S_ID`  
    FOREIGN KEY (`S_ID`)  
    REFERENCES `dbproject`.`students` (`student_ID`)
```

ON DELETE NO ACTION
ON UPDATE NO ACTION);

```
CREATE TABLE `dbproject`.`course_eval` (  
  `S_ID` INT NOT NULL,  
  `C_ID` INT NOT NULL,  
  `evaluation` VARCHAR(45) NULL,  
  PRIMARY KEY (`S_ID`, `C_ID`),  
  INDEX `C_ID_idx` (`C_ID` ASC) VISIBLE,  
  CONSTRAINT `S_ID`  
    FOREIGN KEY (`S_ID2`)  
      REFERENCES `dbproject`.`students` (`student_ID`)  
        ON DELETE NO ACTION  
        ON UPDATE NO ACTION,  
  CONSTRAINT `C_ID`  
    FOREIGN KEY (`C_ID2`)  
      REFERENCES `dbproject`.`courses` (`Course_ID`)  
        ON DELETE NO ACTION  
        ON UPDATE NO ACTION);
```

```
CREATE TABLE `dbproject`.`course_eval` (  
  `S_ID` INT NOT NULL,  
  `C_ID` INT NOT NULL,  
  `evaluation` VARCHAR(45) NULL,  
  PRIMARY KEY (`S_ID`, `C_ID`),  
  INDEX `C_ID_idx` (`C_ID` ASC) VISIBLE,  
  CONSTRAINT `S_ID2`  
    FOREIGN KEY (`S_ID`)  
      REFERENCES `dbproject`.`students` (`student_ID`)  
        ON DELETE NO ACTION  
        ON UPDATE NO ACTION,  
  CONSTRAINT `C_ID2`  
    FOREIGN KEY (`C_ID`)  
      REFERENCES `dbproject`.`courses` (`Course_ID`)  
        ON DELETE NO ACTION  
        ON UPDATE NO ACTION);
```

```
CREATE TABLE `dbproject`.`exams_questions` (  
  `Q_ID` INT NOT NULL,  
  `Ex_ID` INT NOT NULL,  
  `grade` INT NULL,  
  `TimeToAnswer` INT NULL,  
  `EQ_ID` INT NOT NULL AUTO_INCREMENT,  
  PRIMARY KEY (`Q_ID`, `Ex_ID`),
```

```

UNIQUE INDEX `EQ_ID_UNIQUE` (`EQ_ID` ASC) VISIBLE,
INDEX `Ex_ID2_idx` (`Ex_ID` ASC) VISIBLE,
CONSTRAINT `Q_ID2`
  FOREIGN KEY (`Q_ID`)
  REFERENCES `dbproject`.`questions` (`Q_ID`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION,
CONSTRAINT `Ex_ID2`
  FOREIGN KEY (`Ex_ID`)
  REFERENCES `dbproject`.`exams` (`Ex_ID`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION);

```

```

CREATE TABLE `dbproject`.`students_answers` (
  `Student_ID` INT NOT NULL,
  `EQ_ID` INT NOT NULL,
  `Student_Answer` VARCHAR(45) NULL,
  PRIMARY KEY (`Student_ID`, `EQ_ID`),
  INDEX `EQ_ID_idx` (`EQ_ID` ASC) VISIBLE,
  CONSTRAINT `Student_ID`
    FOREIGN KEY (`Student_ID`)
    REFERENCES `dbproject`.`students` (`student_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `EQ_ID`
    FOREIGN KEY (`EQ_ID`)
    REFERENCES `dbproject`.`exams_questions` (`EQ_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION);

```

```

ALTER TABLE `dbproject`.`departments`
CHANGE COLUMN `Department_Head` `Department_Head` INT NOT NULL ,
ADD UNIQUE INDEX `Department_Head_UNIQUE` (`Department_Head` ASC) VISIBLE;
;
ALTER TABLE `dbproject`.`departments`
ADD CONSTRAINT `DepatmentHead`
  FOREIGN KEY (`Department_Head`)
  REFERENCES `dbproject`.`professors` (`Prof_ID`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION;

```

```
INSERT INTO `students` (`student_ID`, `username`, `password`) VALUES
(1, 'student1', 'password1'),
(2, 'student2', 'password2'),
(3, 'student3', 'password3'),
(4, 'student4', 'password4'),
(5, 'student5', 'password5');
```

```
INSERT INTO `departments` (`Department_ID`, `Department_Head`) VALUES
(1, 'Head of Department A'),
(2, 'Head of Department B'),
(3, 'Head of Department C');
```

```
INSERT INTO `courses` (`Course_ID`, `Course_Name`, `Course_Credits`, `Department_ID`)
VALUES
(1, 'Course A', '4', 1),
(2, 'Course B', '3', 2),
(3, 'Course C', '5', 1),
(4, 'Course D', '4', 3);
```

```
INSERT INTO `professors` (`Prof_ID`, `Degree`, `Level`) VALUES
(1, 'PhD', 'Senior Professor'),
(2, 'Masters', 'Assistant Professor'),
(3, 'PhD', 'Associate Professor');
```

```
INSERT INTO `exams` (`Ex_ID`, `course_ID(fk)`, `Department_ID(fk)`) VALUES
(1, 1, 1),
(2, 2, 2),
(3, 3, 1),
(4, 4, 3);
```

```
INSERT INTO `questions` (`Q_ID`, `Answer`, `Question_Body`) VALUES
(1, 'Answer 1', 'Question 1 Body'),
(2, 'Answer 2', 'Question 2 Body'),
(3, 'Answer 3', 'Question 3 Body'),
(4, 'Answer 4', 'Question 4 Body'),
(5, 'Answer 5', 'Question 5 Body');
```

```
INSERT INTO `professors_courses` (`Prof_ID`, `Course_ID`, `PC_ID`) VALUES
(1, 1, 1),
(2, 2, 2),
(3, 3, 3),
(1, 4, 4);
```

```
INSERT INTO `professor_eval` (`PC_ID`, `S_ID`, `evaluation`) VALUES
(1, 1, 'Good'),
(2, 2, 'Excellent'),
(3, 3, 'Average'),
(4, 4, 'Very Good'),
(1, 5, 'Poor');
```

```
INSERT INTO `course_eval` (`S_ID`, `C_ID`, `evaluation`) VALUES
(1, 1, 'Satisfactory'),
(2, 2, 'Very Good'),
(3, 3, 'Poor'),
(4, 4, 'Excellent'),
(5, 1, 'Average');
```

```
INSERT INTO `exams_questions` (`Q_ID`, `Ex_ID`, `grade`, `TimeToAnswer`, `EQ_ID`)
VALUES
(1, 1, 85, 60, 1),
(2, 2, 92, 45, 2),
(3, 3, 78, 75, 3),
(4, 4, 90, 50, 4),
(5, 1, 80, 55, 5);
```

```
INSERT INTO `students_answers` (`Student_ID`, `EQ_ID`, `Student_Answer`) VALUES
(1, 1, 'Answer 1'),
(2, 2, 'Answer 2'),
(3, 3, 'Answer 3'),
(4, 4, 'Answer 4'),
(5, 1, 'Answer 1');
```

```
ALTER TABLE `dbproject`.`exams`
DROP FOREIGN KEY `COURSE`,
DROP FOREIGN KEY `Dep`;
ALTER TABLE `dbproject`.`exams`
```

```
CHANGE COLUMN `course_ID(fk)` `course_ID` INT NOT NULL ,
CHANGE COLUMN `Department_ID(fk)` `Department_ID` INT NOT NULL ;
ALTER TABLE `dbproject`.`exams`
ADD CONSTRAINT `COURSE`
  FOREIGN KEY (`course_ID`)
    REFERENCES `dbproject`.`courses` (`Course_ID`),
ADD CONSTRAINT `Dep`
  FOREIGN KEY (`Department_ID`)
    REFERENCES `dbproject`.`departments` (`Department_ID`);
```

```
INSERT INTO `students_answers` (`Student_ID`, `EQ_ID`, `Student_Answer`) VALUES
(1, 2, 'Answer 2'),
(1, 3, 'Answer 3');
```