

National University of Computer and Emerging Sciences



In lab

“Triggers”

Database Systems

Spring 2022

Department of Computer Science

FAST-NU, Lahore, Pakistan

Students

| RollNo | Name | WarningCount | Department |
|--------|--------|--------------|------------|
| 1 | Ali | 0 | CS |
| 2 | Bilal | 0 | CS |
| 3 | Ayesha | 0 | CS |
| 4 | Ahmed | 0 | CS |
| 5 | Sara | 0 | EE |
| 6 | Salman | 1 | EE |
| 7 | Zainab | 2 | CS |
| 8 | Danial | 1 | CS |

*Gives information about students***Courses**

| CourseID | CourseName | PrerequisiteCourseID | CreditHours |
|----------|-------------------|----------------------|-------------|
| 10 | Database Systems | 20 | 3 |
| 20 | Data Structures | 30 | 3 |
| 30 | Programing | NULL | 3 |
| 40 | Basic Electronics | NULL | 3 |

*Gives information about courses***Instructors**

| InstructorID | Name | Department |
|--------------|----------------|------------|
| 100 | Ishaq Raza | CS |
| 200 | Zareen Alamgir | CS |
| 300 | Saima Zafar | EE |

*Gives information about Instructors***Registrations**

| Semester | RollNumber | CourseID | Section | GPA |
|------------|------------|----------|---------|-----|
| Fall2016 | 1 | 20 | A | 3.3 |
| Fall2016 | 2 | 20 | B | 4 |
| Spring2016 | 1 | 30 | A | 1 |
| Fall2016 | 6 | 40 | D | 0 |
| Spring2017 | 6 | 40 | D | 1 |

*Gives information about students registered in course and section in each semester and GPA they obtained in that course***Semesters**

| Semester | Status |
|------------|------------|
| Fall2016 | Complete |
| Spring2016 | Complete |
| Spring2017 | InProgress |
| Summer2016 | Cancelled |

*Gives information about semesters and their status as either Complete, Cancelled or InProgress. Once the semester ends its status changes from Complete from Inprogress***Course_Semester**

| InstructorID | CourseID | Semester | Section | AvailableSeats | Department |
|--------------|----------|------------|---------|----------------|------------|
| 200 | 10 | Spring2017 | D | 45 | CS |
| 200 | 10 | Spring2017 | C | 0 | CS |
| 100 | 10 | Spring2017 | A | 6 | CS |
| 300 | 40 | Spring2017 | A | 6 | CS |
| 300 | 40 | Spring2016 | A | 6 | CS |
| 200 | 10 | Spring2016 | A | 0 | CS |

*Information that which courses are offered by which department in specific semesters, and how may sections an seat are available on each section***ChallanForm**

| Semester | RollNumber | TotalDues | Status |
|----------|------------|-----------|---------|
| Fall2016 | 1 | 100000 | Paid |
| Fall2016 | 2 | 13333 | Paid |
| Fall2016 | 3 | 5000 | Paid |
| Fall2016 | 4 | 20000 | Pending |

Gives information on fees to be paid by student in each semester, and status shows if the fees has been paid or not

A student can only register for courses in any semester whose status is InProgress. The GPA for all InProgress semester courses will be -1.

Functionality 1:

Create a trigger that doesn't allow you to delete any student from the student Table.

The print message "You don't have the permission to delete the student"

Functionality 2:

Create a trigger that doesn't allow you to insert any course in Courses Table.

The print message "You don't have the permission to Insert a new Course"

Functionality 3:

According to university rules, Students before enrolling in a new course should have no fee charges due. Create a trigger to ensure that no student is enrolled in a new course with more than 20,000 fee charges due.

Functionality 4:

Create a trigger that does not let you delete any course semester whose available seats are less than 10. Print 'not possible'.

Otherwise prints 'Successfully deleted', after you delete any course semester whose available seats are 10 or more.

Functionality 5:

Create a trigger to stop tables, from being modified or dropped.