

National University of Computer and Emerging Sciences



In lab

“Triggers”

Database Systems

Spring 2023

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	Daniyal	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 many sections and seats 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 courses in any semester whose status is InProgress. The GPA for all InProgress semester courses will be -1.

Functionality 1:

Create a trigger which don't allow you to delete any student from student Table.

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

Functionality 2:

Create a trigger which don't allow you to insert any course in Courses Table.

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

Functionality 3:

Create a new table, 'Notify' that should notify students about any important events. The table has three columns, NotificationID, StudentID and Notification String. Create a Trigger to notify student if his registration in the course is successful. Also inform user if registration is not successful.

For successful registration the student must have passed the prerequisite and number of seats are available.

Functionality 4:

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

Functionality 5:

Create a trigger that do 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 6:

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