

Experiment 2

AIM:- Create a PostgreSQL Query for Department-Course Subquery and Access Control

Explanation:- Here in this query we will be looking forward to create three tables named Students, Courses and Enrollments with three students named Ashish, Samaran and Vaibhav along with their courses called DBMS, Operating System and Computer Networks and for the Access control we will be creating a user with any name and for granting the permission for any kind of statement like Select statements we will use the keyword Grant and in order to take that granted permission back we will be using the keyword Revoke

Code:

```
CREATE TABLE Students(student_id INT PRIMARY KEY, name VARCHAR(100),  
dob DATE);  
CREATE TABLE Courses(course_id INT PRIMARY KEY, title VARCHAR(100));  
CREATE TABLE Enrollments(enroll_id INT PRIMARY KEY, student_id INT,  
course_id INT, grade VARCHAR(2), FOREIGN KEY (student_id) REFERENCES  
Students(student_id), FOREIGN KEY (course_id) REFERENCES  
Courses(course_id));
```










```
Insert into Students( student_id, name, dob) values(1, 'Ashish', '2002-03-14'), (2,  
'Samaran', '2003-01-05') , (3, 'Vaibhav', '2003-01-05');  
Insert into Courses(course_id, title) values (101,'DBMS') , (102,'Operating System') ,  
(103 , 'Computer Networks');  
Insert into Enrollments(enroll_id, student_id, course_id, grade) values (1, 1, 101, 'A') ,  
(2, 1, 102, 'B+');
```

```
Select * from Students;  
Select * from Courses;  
select * from Enrollments;
```










```
DROP TABLE Courses;  
DROP TABLE Students;  
DROP TABLE Enrollments;
```

OUTPUT:

Students table

Data Output Messages Notifications			
			
			
	SQL		
	student_id [PK] integer	name character varying (100)	dob date
1	1	Ashish	2002-03-14
2	2	Samaran	2003-01-05
3	3	Vaibhav	2003-01-05

Courses table

Data Output Messages Notifications		
		
		
		
SQL		
	course_id [PK] integer	title character varying (100)
1	101	DBMS
2	102	Operating System
3	103	Computer Networks

Enrollment table

Data Output

Messages

Notifications

SQL

	enroll_id [PK] integer	student_id integer	course_id integer	grade character varying (2)
1	1	1	101	A
2	2	1	102	B+

Savepoint created

Data Output

Messages

Notifications

SAVEPOINT

Query returned successfully in 35 msec.

✓ Query returned successfully in 35 msec. ✕

Total rows: Query complete 00:00:00.035CRLF Ln 20, Col 1

Changes made successfully

Data Output

Messages

Notifications

COMMIT

Query returned successfully in 33 msec.

✓ Query returned successfully in 33 msec. ✕

Total rows: Query complete 00:00:00.033CRLF Ln 24, Col 7

Final table after the joints are made

Data Output

Messages

Notifications

Showing rows: 1 to 3

Page No: 1 of 1

	student_name character varying (100)	course_title character varying (100)	grade character varying (2)
1	Ashish	DBMS	A
2	Ashish	Operating System	B+
3	Ashish	Computer Networks	A

✓ Successfully run. Total query runtime: 42 msec. 3 rows affected. ✕

Total rows: 3Query complete 00:00:00.042CRLF Ln 27, Col 138

Learning Outcomes:

1. we learnt how the tables are created and how the values are inserted
2. we learnt how the TCL commands are used (Begin, Savepoint, Rollback, Commit)
3. we learnt about joins of the tables