

LAB 4: Use of Constraint

```
CREATE DATABASE constraintlab4
CREATE TABLE department(
    did int primary key,
    dname varchar(20) NOT NULL,
    location varchar(20) default 'head office'
)
CREATE TABLE employee(
    eid int identity(1,1) primary key,
    fname varchar(20) NOT NULL,
    mname varchar(20),
    lname varchar(20) NOT NULL,
    Email varchar(20) unique,
    salary decimal(10,2) check(salary >= 18000),
    did int , foreign key(did) references department(did),
    joindate date default getdate()
)
```

```
select*
from department
```

Results			Messages	
	did	dname	location	

MI\sqlexpress (16... | ABINASHREGMI\dell (55) | master

```
select *
from employee
```

	eid	fname	mname	lname	Email	salary	did	joindate	

MI\sqlexpress (16... | ABINASHREGMI\dell (55) | master | 00:00:00

1) Insert 10/10 valid records to each of the table

```
INSERT INTO department (did, dname, location) VALUES
(1, 'Human Resources', 'Kathmandu'),
(2, 'Finance', 'Pokhara'),
(3, 'IT', 'Lalitpur'),
(4, 'Marketing', 'Biratnagar'),
(5, 'Sales', 'Butwal'),
(6, 'Operations', 'Dharan'),
(7, 'Legal', 'Bhaktapur'),
(8, 'Research', 'Janakpur'),
(9, 'Customer Service', 'Nepalgunj'),
(10, 'Administration', 'head office');
```

	did	dname	location
1	1	Human Resources	Kathmandu
2	2	Finance	Pokhara
3	3	IT	Lalitpur
4	4	Marketing	Biratnagar
5	5	Sales	Butwal
6	6	Operations	Dharan
7	7	Legal	Bhaktapur
8	8	Research	Janakpur
9	9	Customer Service	Nepalgunj
10	10	Administration	head office

salexpress (16... | ABINASHREGMI\dell (55))

```
INSERT INTO employee (fname, mname, lname, Email, salary, did, joindate) VALUES
('Rajan', 'Kumar', 'Joshi', 'rajan.joshi@ex.com', 24000.00, 1, '2024-05-10'),
('Sneha', NULL, 'Tamang', 'sneha.tamang@ex.com', 22000.00, 2, '2023-10-01'),
('Bibek', 'Prasad', 'Shah', 'bibek.shah@ex.com', 26000.00, 3, '2022-08-15'),
('Laxmi', NULL, 'Malla', 'laxmi.malla@ex.com', 20000.00, 4, '2025-02-20'),
('Kamal', 'Raj', 'Thapa', 'kamal.thapa@ex.com', 23000.00, 3, '2023-06-30'),
('Nabin', NULL, 'Rai', 'nabin.rai123@ex.com', 21000.00, 6, '2024-07-12'),
('Pooja', 'Devi', 'Shrestha', 'pooja.shres@ex.com', 25000.00, 1, '2022-11-05'),
('Suman', NULL, 'Lama', 'suman.lama12@ex.com', 19500.00, 8, '2023-03-18'),
('Asha', 'Kumari', 'Yadav', 'asha.yadav12@ex.com', 21500.00, 9, '2024-09-25'),
('Manoj', NULL, 'Karki', 'manoj.karki@ex.com', 27000.00, 2, '2025-01-01');
```

	eid	fname	mname	lname	Email	salary	did	joindate
1	1	Rajan	Kumar	Joshi	rajan.joshi@ex.com	24000.00	1	2024-05-10
2	2	Sneha	NULL	Tam...	sneha.tamang@e...	22000.00	2	2023-10-01
3	3	Bibek	Prasad	Shah	bibek.shah@ex.co...	26000.00	3	2022-08-15
4	4	Laxmi	NULL	Malla	laxmi.malla@ex.c...	20000.00	4	2025-02-20
5	5	Kamal	Raj	Thapa	kamal.thapa@ex....	23000.00	3	2023-06-30
6	6	Nabin	NULL	Rai	nabin.rai123@ex....	21000.00	6	2024-07-12
7	7	Pooja	Devi	Shre...	pooja.shres@ex.c...	25000.00	1	2022-11-05
8	8	Sum...	NULL	Lama	suman.lama12@...	19500.00	8	2023-03-18
9	9	Asha	Kumari	Yadav	asha.yadav12@ex...	21500.00	9	2024-09-25
10	10	Manoj	NULL	Karki	manoj.karki@ex.c...	27000.00	2	2025-01-01

SHREGMI\sqlexpress (16... | ABINASHREGMI\dell (55) | master | 00:00:00 | 10 row

2) Insert any two employees of email same

```
INSERT INTO employee(fname, mname, lname, Email, salary, did)
VALUES('uncle','kumar','jha','adsss@gmail.com',15000,1)

Msg 547, Level 16, State 0, Line 4
The INSERT statement conflicted with the CHECK constraint "CK_employee_salary_3C89F72A". The conflict occurred in database "master".
The statement has been terminated.

Completion time: 2025-08-12T09:59:42.7930209+05:45

100 % ▶ No issues found ◀ ▶ Ln: 6 Ch: 1 TABS MIXED
⚠️ Query complet... | 🔒 ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (55) | master | 00:00:00 | 0 rows
```

3) Insert any two employees without their join date

```
INSERT INTO employee(fname, mname, lname, Email, salary, did)
VALUES('abd','kumar','jha','abd@gmail.com',150000,1),
('bad','kumar','jha','abd@gmail.com',150000,1)

Msg 2627, Level 14, State 1, Line 50
Violation of UNIQUE KEY constraint 'UQ_employee_A9D10534307B438B'. Cannot insert duplicate key
The statement has been terminated.

100 % ▶ No issues found ◀ ▶ Ln: 6 Ch: 1 TABS
⚠️ Query complet... | 🔒 ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (55) | master | 00:00:00 | 0 rows
```

4) Find all employees of department unknown.

```
SELECT *
from employee e
LEFT JOIN department d
ON e.did = d.did
WHERE d.did IS NULL;

| eid | fname | mname | lname | Email | salary | did | joindate | did | dname | location |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
```

⌚ Query executed... | 🔒 ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (55)

5) Delete IT department

```
DELETE from department
WHERE dname = 'IT'
```

```
Msg 547, Level 16, State 0, Line 56
The DELETE statement conflicted with the REFERENCE constraint "FK_employee_did_3D7E1B63". The conflict occurred in database "master".
The statement has been terminated.

100 % ▶ No issues found ◀ ▶ Ln: 6 Ch: 1 TABS MIXED
⚠️ Query complet... | 🔒 ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (55) | master | 00:00:00 | 0 rows
```