**Kathmandu University**

**Department of Computer Science and Engineering**

**Dhulikhel, Kavre**



**Lab Report No. 2 [Code No: COMP 232]**

**Submitted by:**

**Sophiya Shrestha**

**Roll no. 46**

**Computer Science (2nd Year/2nd Semester)**

**Submitted to:**

**Mr. Sanjog Sigdel**

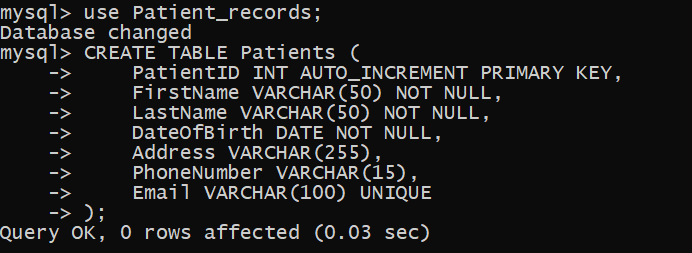
**Department of Computer Science and Engineering**

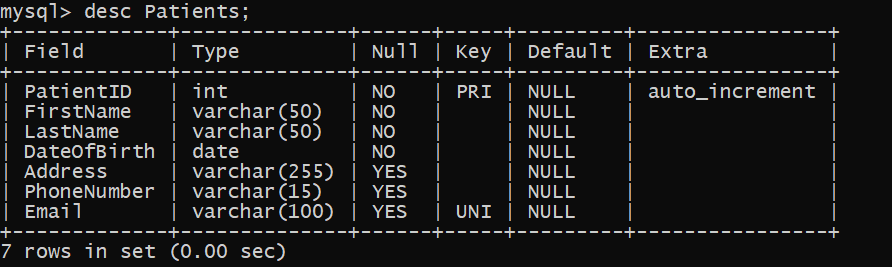
**Submission Date: 22-11-2024**

**Task: Preparing database with two tables associated with foreign key**

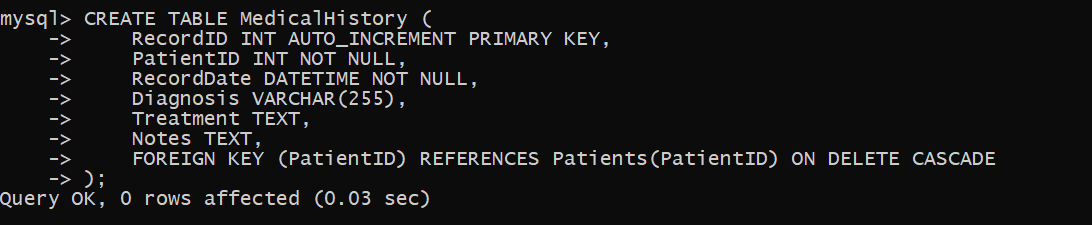
**database: Patient\_records**

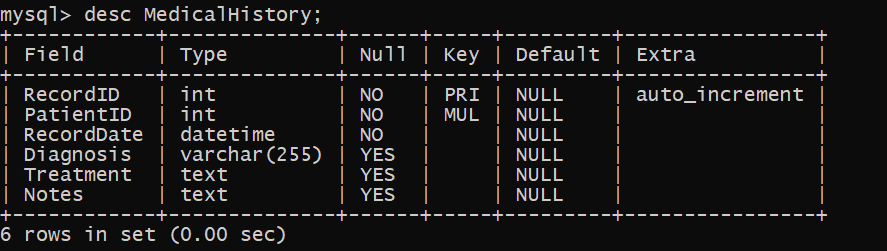
**Creating 1st table “Patients”**

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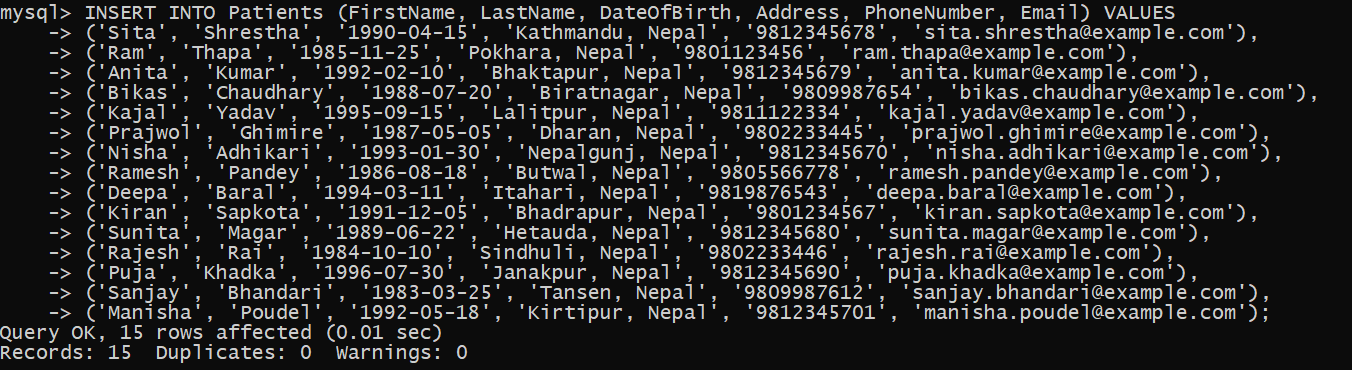
**Creating 2nd table “MedicalHistory” and creating a relationship model between these tables**

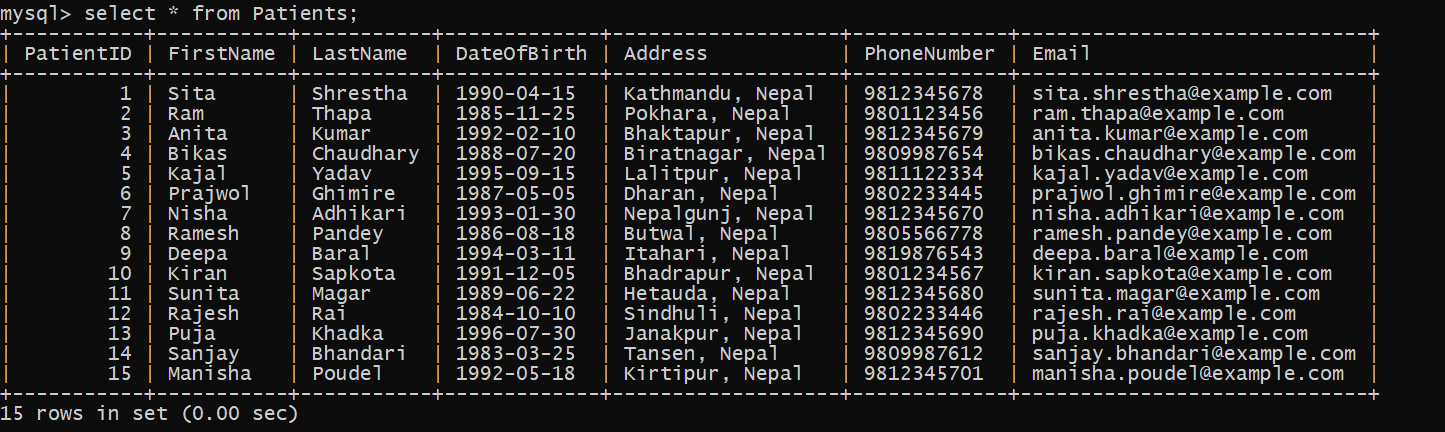
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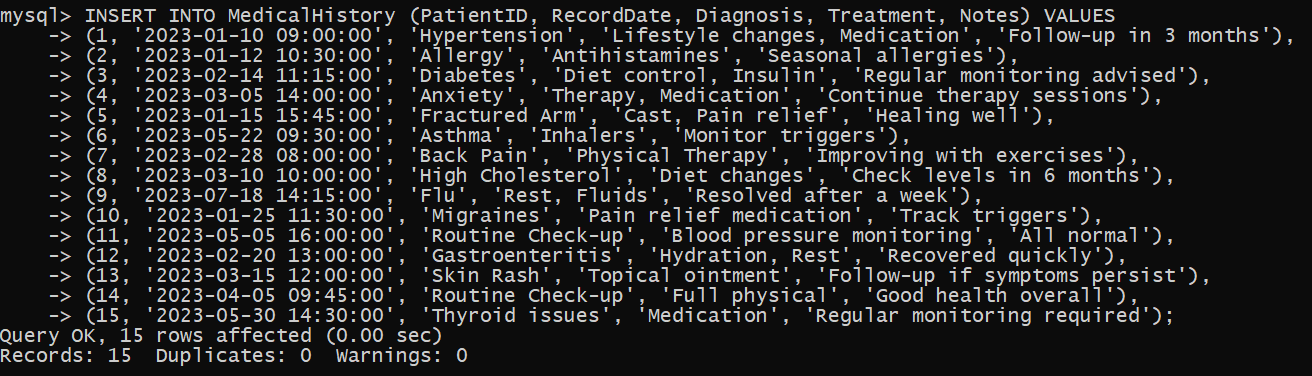
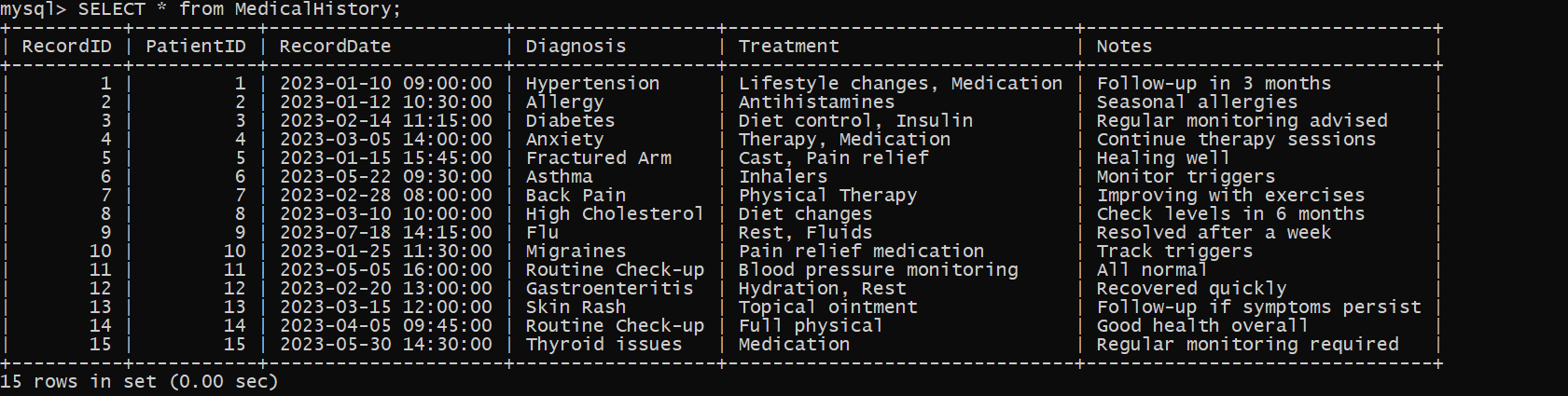
**Foreign Keys:** The PatientID in the MedicalHistory establishes a relationship with the Patients table, ensuring that every medical record and appointment is linked to a patient.

**Now we insert the datas in the respected tables,**

**Insert data in Patient Table**

**View Patient Table:** 

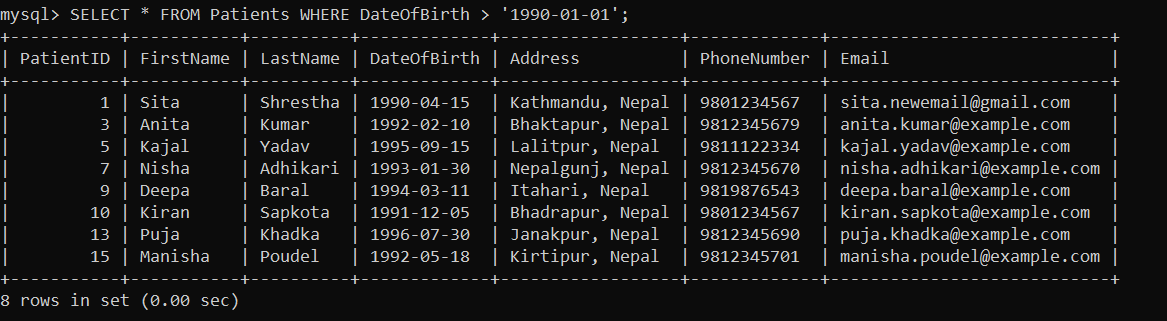
1. **Insert data in the MedicalHistory Table:**

**View MedicalHistory table:**

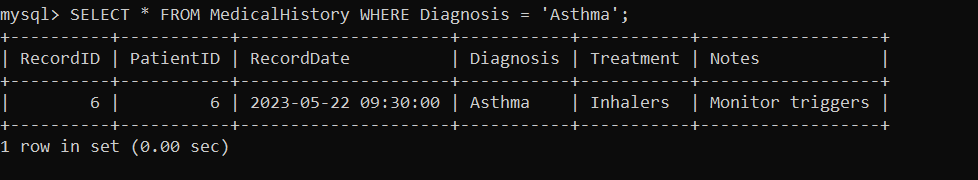
**Performing the following Relational Algebraic Operations:**

1. Selection (σ)

Select all patients who were born after 1990

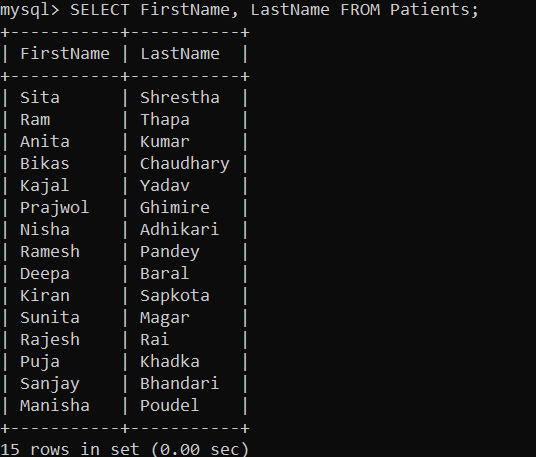


Select all records where the diagnosis is "Asthma".



1. **Projection (π)**: This operation is used to select specific columns from the table.

Select the FirstName and LastName of all patients



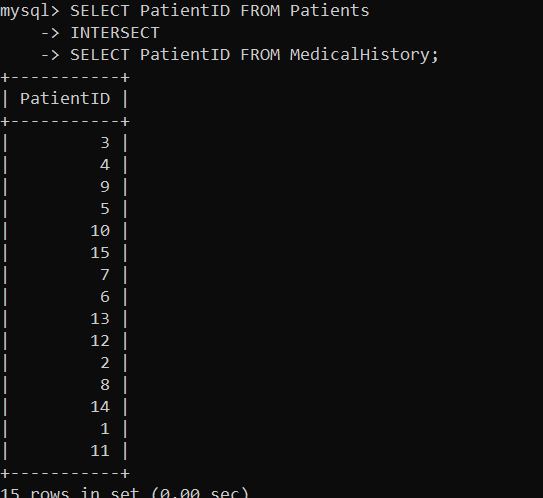
Select only PatientID, Diagnosis, and Treatment columns



1. **Cartesian Product (×)**
2. **UNION:** Combines the results of two queries that return the same number of columns with compatible data types.

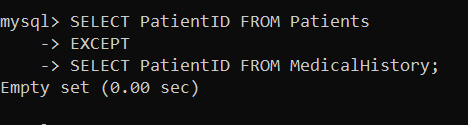


1. **INTERSECTION:** The Intersection operation finds records that are common between two sets.

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1. **SET DIFFERENCE (EXCEPT):**

The Set Difference operation finds records that are present in one table but not in another. This is typically implemented in SQL using the EXCEPT keyword.



**In this case:**

* Every patient listed in the Patients table also appears in the MedicalHistory table (with a diagnosis).
* So, the set difference between Patients and MedicalHistory results in norecords because there are no PatientID values in the Patients table that don't also exist in the MedicalHistory table.