**Introduction to SQL**

LAB EXERCISES:

**Lab 1: Create a new database named school\_db and a table called students with the following columns: student\_id, student\_name, age, class, and address.**

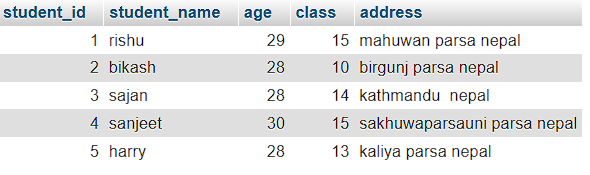
**Lab 2: Insert five records into the students table and retrieve all records using the SELECT statement.**

Command:

CREATE DATABASE school\_db;

CREATE TABLE students(student\_id int, student\_name varchar(30), age int , class int , address text);

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html)  \*FROM `student` ;

****

**2. SQL Syntax**

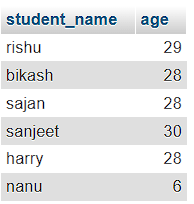
LAB EXERCISES:

**• Lab 1: Write SQL queries to retrieve specific columns (student\_name and age) from the students table.**

**• Lab 2: Write SQL queries to retrieve all students whose age is greater than 10**.

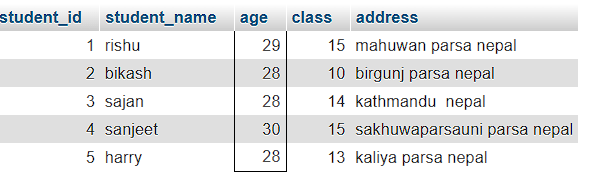
Command:

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) student\_name,age FROM `student`;



Command:

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html)  \*FROM `student` WHERE age>10;



**3. SQL Constraints**

LAB EXERCISES:

**• Lab 1: Create a table teachers with the following columns: teacher\_id (Primary Key), teacher\_name (NOT NULL), subject (NOT NULL), and email (UNIQUE).**

**• Lab 2: Implement a FOREIGN KEY constraint to relate the teacher\_id from the teachers table with the students table.**

Command:

CREATE TABLE teachers

(

teacher\_id int (Primary Key),

teacher\_name varchar (NOT NULL),

subject varchar (NOT NULL),

email text (UNIQUE)

),



Command:

CREATE TABLE students(

student\_id int PRIMARY KEY,

student\_name varchar(30),

age int , class int ,

address text,

teacher\_id int,

FOREIGN KEY(teacher\_id) REFERENCES students(teacher\_id)

);



**4. Main SQL Commands and Sub-commands (DDL)**

LAB EXERCISES:

**• Lab 1: Create a table courses with columns: course\_id, course\_name, and course\_credits. Set the course\_id as the primary key.**

**• Lab 2: Use the CREATE command to create a database university\_db.**

**Command:**

CREATE DATABASE university\_db;

CREATE TABLE courses(

course\_id int PRIMARY KEY,

course\_name varchar(30),

course\_credits int

);



**5. ALTER Command**

LAB EXERCISES:

**• Lab 1: Modify the courses table by adding a column course\_duration using the ALTER command.**

**• Lab 2: Drop the course\_credits column from the courses table.**

**Command:**

ALTER TABLE courses add course\_duration int;

****

**Command:**

ALTER TABLE courses DROP COLUMN course\_credits;

****

**6. DROP Command**

LAB EXERCISES:

**• Lab 1: Drop the teachers table from the school\_db database.**

**• Lab 2: Drop the students table from the school\_db database and verify that the table has been removed.**

**Command:**

DROP TABLE students;

DROP TABLE TEACHERS;