

CRUD Practice Questions

Question 1: Schema Definition

Given the following schema, write a `CREATE TABLE` query:

Table: Students

Column Name	Data Type	Constraints
StudentID	INT	PRIMARY KEY, AUTO_INCREMENT
FirstName	VARCHAR(50)	NOT NULL
LastName	VARCHAR(50)	NOT NULL
Age	INT	CHECK (Age >= 16)
EnrollmentDate	DATE	DEFAULT CURRENT_DATE
Major	VARCHAR(100)	

Task:

Write the SQL query to create the above table.

Question 2: Insert Data

Insert the following rows into the `Students` table:

StudentID	FirstName	LastName	Age	EnrollmentDate	Major
1	Alice	Johnson	18	2023-09-01	Computer Science
2	Bob	Smith	20	2022-06-15	Mathematics
3	Charlie	Brown	19	2021-08-20	Physics
4	Daisy	Carter	21	2023-01-10	Biology
5	Ethan	Taylor	22	2023-03-25	Chemistry

Task:

Write the `INSERT INTO` query to add these rows to the table.

Question 3: Update Data

Perform the following updates on the Students table:

1. Change the major of the student with `StudentID = 1` to "Data Science".
2. Increase the age of all students enrolled before "2023-01-01" by 1 year.
3. Update the `LastName` of the student with `FirstName = 'Daisy'` to "Cooper".
4. Set the `Major` to "Undeclared" for all students younger than 20.
5. Update the `EnrollmentDate` of the student with `StudentID = 5` to "2024-01-01".
6. Set the `Major` to "Physics" for all students whose current `Major` is "Biology".
7. Update the `Age` to 23 for all students with `FirstName = 'Charlie'`.
8. Change the `LastName` of the student with `Major = 'Mathematics'` to "Williams".
9. Update the `FirstName` of the youngest student to "Alex".
10. Set the `Age` to NULL for all students with `Major = 'Undeclared'`.
11. Set the `Major` to `DBMS` for all youngest students.

Task:

Write 10 separate `UPDATE` queries to perform the above operations.

Question 4: Delete Records

Perform the following deletions on the Students table:

1. Delete the record of the student with `StudentID = 3`.
2. Remove all students with the `Major` as "Undeclared".
3. Delete all students who enrolled after "2023-01-01".
4. Remove students who are older than 21.
5. Delete the record of the student with `FirstName = 'Ethan'` and `LastName = 'Taylor'`.
6. Delete all students with `Age = NULL`.
7. Remove all students with `LastName` starting with the letter "C".
8. Delete all students where `EnrollmentDate` is earlier than "2022-01-01".
9. Remove all students who have "Physics" as their `Major`.
10. Delete all records from the table without dropping the table itself.

Task:

Write 10 separate `DELETE` queries to perform the above deletions.

Database.

Set - 1

CRUD Practice Questions

Schema Definition

```
CREATE TABLE Students (
    StudentID INT PRIMARY KEY, AUTO_INCREMENT,
    FirstName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    Age INT CHECK (Age > 16),
    EnrollmentDate DATE DEFAULT CURRENT_DATE,
    Major VARCHAR(100)
);
```

Q.2

Insert Data



INSERT INTO Students (StudentID, FirstName, LastName,
Age, EnrollmentDate, Major)

VALUES

(1, 'Alice', 'Johnson', 18, '2023-09-01', 'Computer Science'),
(2, 'Bob', 'Smith', 20, '2022-06-15', 'Mathematics'),
(3, 'Charlie', 'Brown', 19, '2021-08-20', 'Physics'),
(4, 'Daisy', 'Carter', 21, '2023-01-10', 'Biology'),
(5, 'Ethan', 'Taylor', 22, '2023-03-25', 'Chemistry');

3. Update Data

a.)

UPDATE Students

SET Major = "Data Science";
WHERE StudentID = 1;

b.)

UPDATE Students

SET Age += 1
WHERE EnrollmentDate < '2023-01-01';

c.)

UPDATE Students

SET LastName = 'Cooper'
WHERE FirstName = 'Daisy';

d.)

UPDATE Students

SET Major = 'Undeclared'

WHERE Age < 20;

e.)

UPDATE Students

SET EnrollmentDate = '2024-01-01'

WHERE StudentID = 5;

f.)

UPDATE Students

SET Major = 'Physics'

WHERE Major = 'Biology';

g)

UPDATE Students

SET Age = 23

WHERE FirstName = 'charlie';

h)

UPDATE Students

SET LastName = 'Williams'

WHERE Major = 'Mathematics';

i)

UPDATE Students

SET FirstName = 'Alex'

WHERE Age = (SELECT MIN(Age) FROM Students);

j)

UPDATE Students

SET Age = NULL

WHERE Major = 'Undeclared';

4) Delete Records.

a.)

DELETE FROM Students
WHERE StudentID = 3;

b.)

DELETE FROM Students
WHERE Major = 'Undeclared';

c.)

DELETE FROM Students
WHERE EnrollmentDate > '2023-01-01';

d.)

DELETE FROM Students
WHERE Age > 21;

e)

DELETE FROM Students

WHERE FirstName = 'Ethan' AND LastName = 'Taylor';

f)

DELETE FROM Students

WHERE Age IS NULL;

g.)

DELETE FROM Students

WHERE LastName LIKE 'C%';

h.)

DELETE FROM Students

WHERE EnrollmentDate < '2022-01-01';

i)

DELETE FROM Students
WHERE Major = 'Physics';

j

DELETE FROM Students;