1. Pehle **table create karen**
2. Fir **data insert karen**
3. Uske baad **column add/delete/update/rename** ke operations dikhayein
4. Aur har step ka output bhi ho

📋 MySQL Notes: Column Operations (Step by Step)

☐ Step 1: Create Table (Sheet)

```
CREATE TABLE students (
    id INT PRIMARY KEY,
    name VARCHAR(50),
    age INT
);
```

✅ Output Table (Initially Blank)

id	name	age

☐ Step 2: Insert Data into Table

```
INSERT INTO students (id, name, age)
VALUES (1, 'Aman', 18),
       (2, 'Priya', 19),
       (3, 'Ravi', 20);
```

✅ Output Table After Insert:

id	name	age
1	Aman	18
2	Priya	19
3	Ravi	20

☐ Step 3: Add a New Column

```
ALTER TABLE students ADD city VARCHAR(30);
```

✅ Output Table After Adding Column:

id	name	age	city
1	Aman	18	NULL
2	Priya	19	NULL
3	Ravi	20	NULL

☐ Step 4: Update New Column Data

```
UPDATE students SET city = 'Delhi' WHERE id = 1;
UPDATE students SET city = 'Mumbai' WHERE id = 2;
UPDATE students SET city = 'Pune' WHERE id = 3;
```

✅ Output Table After Updating `city`:

id	name	age	city
1	Aman	18	Delhi
2	Priya	19	Mumbai
3	Ravi	20	Pune

☐ Step 5: Delete a Column (`age`)

```
ALTER TABLE students DROP COLUMN age;
```

✅ Output Table After Deleting `age`:

id	name	city
1	Aman	Delhi
2	Priya	Mumbai
3	Ravi	Pune

☐ Step 6: Rename Column `name` to `full_name`

```
ALTER TABLE students RENAME COLUMN name TO full_name;
```

✅ Output Table After Renaming Column:

id	full_name	city
1	Aman	Delhi
2	Priya	Mumbai

id full_name   city
3 Ravi   Pune

☐ Step 7: View Table Structure (Optional)

```
DESC students;
```

✅ Output:

```
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| id         | int         | NO   | PRI | NULL    |       |
| full_name  | varchar(50) | YES  |     | NULL    |       |
| city       | varchar(30) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
```

☐ Summary Table (Cheat Sheet)

Task	Query Example
Add column	`ALTER TABLE students ADD city VARCHAR(30);`
Delete column	`ALTER TABLE students DROP COLUMN age;`
Rename column	`ALTER TABLE students RENAME COLUMN name TO full_name;`
Update column values	`UPDATE students SET city = 'Pune' WHERE id = 1;`
View table columns	`DESC students;`

➜

```
11
12 •     INSERT INTO students (id, name, age, grade, city) VALUES
13       (1, 'Rahul', 18, 'A', 'Delhi'),
14       (2, 'Priya', 19, 'B', 'Mumbai'),
15       (3, 'Aman', 17, 'A', 'Pune'),
16       (4, 'Neha', 18, 'C', 'Delhi'),
17       (5, 'Ravi', 20, 'B', 'Chennai');
18
19 •     select *from students;
20
21 •     UPDATE students
22       SET city = 'Goa'
23       WHERE id = 2;
24
25 •     UPDATE students
26       SET city = 'Aligarh'
27       WHERE TRIM(LOWER(name)) = 'Ravi';
28
29 •     SELECT * FROM students;
30
```

Result Grid | ▦ | ↻ Filter Rows: | Edit: 🖉 🖶 🖶 | Export/Import: 🖶

id	name	age	grade	city
1	Rahul	18	A	Delhi
2	Priya	19	B	Goa12
3	Aman	17	A	Pune
4	Neha	18	C	Aligarh
5	Ravi	20	B	Aligarh
NULL	NULL	NULL	NULL	NULL

students 16 ✕

Output

➔ Add F.NAME Coloum

```
21 •   UPDATE students
22     SET city = 'Goa'
23     WHERE id = 2;
24
25 •   UPDATE students
26     SET city = 'Aligarh'
27     WHERE TRIM(LOWER(name)) = 'Ravi';
28 •   SELECT * FROM students;
29
30 •   ALTER TABLE students
31     ADD COLUMN father_name VARCHAR(50)
32     AFTER name;
33
34 •   UPDATE students SET father_name = 'Mr. Sharma' WHERE name = 'Rahul';
35 •   UPDATE students SET father_name = 'Mr. Verma' WHERE name = 'Priya';
36 •   UPDATE students SET father_name = 'Mr. Khan' WHERE name = 'Aman';
37 •   UPDATE students SET father_name = 'Mr. Singh' WHERE name = 'Neha';
38 •   UPDATE students SET father_name = 'Mr. Reddy' WHERE name = 'Ravi';
39
40
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap

id	name	father_name	age	grade	city
1	Rahul	Mr. Sharma	18	A	Delhi
2	Priya	Mr. Verma	19	B	Goa12
3	Aman	Mr. Khan	17	A	Pune
4	Neha	Mr. Singh	18	C	Aligarh
5	Ravi	Mr. Reddy	20	B	Aligarh
NULL	NULL	NULL	NULL	NULL	NULL

students 19 ✕

Output

➔ MARKSHEET TASK

📄 **Output Example:**

roll_no	name	maths	science	english	total	percentage	grade
1	Rahul	90	85	88	263	87.67	A
2	Priya	76	80	70	226	75.33	A
3	Aman	60	55	50	165	55.00	C
4	Neha	40	35	30	105	35.00	Fail