



String Datatypes in MySQL

1. CHAR(size) **0 to 255**
2. VARCHAR(size) **0 to 65535**
3. BINARY(size)
4. VARBINARY(size)
5. TINYTEXT **255 characters**
6. TEXT(size) **65,535 bytes**
7. MEDIUMTEXT **16,777,215 characters**
8. LONGTEXT **4,294,967,295 characters**
9. TINYBLOB **255 bytes**
10. BLOB(size) **65,535 bytes**
11. MEDIUMBLOB **16,777,215 bytes**
12. LONGBLOB **4,294,967,295 bytes**
13. ENUM(val1, val2, val3, ...) **list up to 65535 values**
14. SET(val1, val2, val3, ...) **list up to 64 values**



Numeric Datatypes in MySQL

1. BIT(size) **1 to 64**
2. TINYINT(size) **-128 to 127**
3. INT(size) **-2147483648 to 2147483647**
4. INTEGER(size)
5. SMALLINT(size) **-32768 to 32767**
6. MEDIUMINT(size) **-8388608 to 8388607**
7. BIGINT(size) **-9223372036854775808 to 9223372036854775807**
8. BOOL
9. BOOLEAN **0 / 1**
10. FLOAT(p)
11. DOUBLE(size, d) **255.568**
12. DECIMAL(size, d) **Size = 60 , d = 30**
13. DEC(size, d)



Date & Time Datatypes in MySQL

1. DATE '1000-01-01' to '9999-12-31'
2. DATETIME(fsp) YYYY-MM-DD hh:mm:ss
3. TIMESTAMP(fsp)
4. TIME(fsp) hh:mm:ss
5. YEAR four-digit format : 1901

SCHEMAS

	Filter objects
	phpmyadmin
	student

```
1 CREATE TABLE personal(
2     id INT,    I
3     name VARCHAR(50),
4     birth_date DATE,
5     phone VARCHAR(12),
6     gender VARCHAR(1)
7 );
```

Administration

Schemas

Information

Schema: student

Limit to 1000 r



Output

Action Output

#	Time	Action
1	02:23:57	use student

Message

0 row(s) affected



How to Insert data in Tables with SQL ?

Name	Age	Gender
Ram Kumar	21	Male
Salman Khan	22	Male
Meera Khan	21	Female
Sarita Kumari	21	Female
Anil Kapoor	22	Male

```
INSERT INTO table_name ( column1, column2, ....)
VALUES ( value1, value2,....);
```



Insert Multiple Rows Syntax :

```
INSERT INTO table_name ( column1, column2,.... )
VALUES
( value1, value2,....),
( value1, value2,....),
( value1, value2,....);
```



Data Table without Constraints

Id	Name	Age	Gender	Phone	City
1	Ram Kumar	17	Male	4022155	Agra
2	Salman Khan	19		4033244	Agra
3	Meera Khan	20	Female	4022155	Agra
	Sarita Kumari	18	Female	4066899	Agra
5	Anil Kapoor	19	Male	4188733	Agra

↓
NOT NULL

↓
UNIQUE

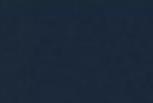
↓
CHECK (age >= 18)
↓
NOT NULL

↓
UNIQUE
↓
DEFAULT 'Agra'



Create Table Syntax

```
CREATE TABLE table_name (
    id INT NOT NULL UNIQUE,
    name VARCHAR(50) NOT NULL,
    age INT NOT NULL CHECK (age >= 18),
    gender VARCHAR(10) NOT NULL,
    phone VARCHAR(10) NOT NULL UNIQUE,
    city VARCHAR(10) NOT NULL DEFAULT 'Agra',
);
```





SELECT Syntax

`SELECT column1, column2, column3,`

`FROM table_name;`

`SELECT *`

`FROM table_name;`

Navigator

Query 1 ×

SCHEMAS

Filter objects

phpmyadmin

student

Tables

personal

Columns

- id
- name
- age
- gender
- phone
- city

Indexes

Foreign Keys

Triggers

Views

Stored Procedures

Functions

test

Administration Schemas

Information

No object selected

1 • SELECT id AS Id, name AS Student , phone AS Phone FROM personal;

Result Grid | Filter Rows: Export: Wrap Cell Content:

	Id	Student	Phone
▶	1	Ram Kumar	4022155
	2	Sarita Kumari	4034421
	3	Salman Khan	4056221
	4	Juhi Chawla	4089821
	5	Anil Kapoor	4025221
	6	John Abraham	4033776

personal 3 ×

Output

Action Output

#	Time	Action	Message
1	02:23:56	SELECT * FROM personal LIMIT 0, 1000	6 row(s) returned
2	02:24:59	SELECT id, name, phone FROM personal LIMIT 0, 1000	6 row(s) returned
3	02:26:59	SELECT id AS Id, name AS Student , phone AS Phone FROM personal LIMIT 0, 1000	6 row(s) returned

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VLC icon

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Powerpoint icon

Speaker icon

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11/19/2022



SELECT Data with AND & OR Operators

WHERE Age \geq 18 AND Age \leq 21

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	22	Male
Meera Khan	21	Female
Sarita Kumari	18	Female
Anil Kapoor	22	Male



Name	Age	Gender
Ram Kumar	19	Male
Meera Khan	21	Female
Sarita Kumari	18	Female



Name	Age	Gender
Meera Khan	21	Female
Sarita Kumari	18	Female

WHERE Age = 18 OR Age = 21



SELECT with AND & OR Operator Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE condition1 **AND** condition2 **AND** condition3 ...;

SELECT column1, column2, column3,

FROM table_name

WHERE condition1 **OR** condition2 **OR** condition3 ...;



SELECT with IN Operator Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **IN** (value1, value2, ...);

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **NOT IN** (value1, value2, ...);





SELECT Data with IN Operator

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	22	Male
Meera Khan	21	Female
Sarita Kumari	18	Female
Anil Kapoor	22	Male

WHERE Age IN (18, 21)



Name	Age	Gender
Meera Khan	21	Female
Sarita Kumari	18	Female

WHERE Age = 18 OR Age = 21



SELECT Data with BETWEEN Operator

Student Table

Name	Age	Gender	DOB
Ram Kumar	19	Male	1998-02-10
Salman Khan	17	Male	1999-07-22
Meera Khan	19	Female	1998-05-11
Sarita Kumari	21	Female	1996-10-15
Anil Kapoor	20	Male	1997-03-12

WHERE Age BETWEEN 18 AND 20

Name	Age	Gender
Ram Kumar	19	Male
Meera Khan	19	Female
Anil Kapoor	20	Male

January 1998 to June 1998

Name	Age	Gender
Ram Kumar	19	Male
Meera Khan	19	Female

WHERE DOB BETWEEN 1998-01-01 AND 1998-06-30



SELECT with BETWEEN Operator Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **BETWEEN** value1 **AND** value2;

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **NOT BETWEEN** value1 **AND** value2;



SELECT Data with LIKE Operator

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan	19	Female
Sarita Kumari	21	Female
Anil Kapoor	20	Male



WHERE Name **LIKE "s%"**

Name	Age	Gender
Salman Khan	18	Male
Sarita Kumari	21	Female

WildCard Characters :

- **% Percentage Sign** : Represents zero, one, or multiple characters
- **_ Underscore** : Represents a single character



LIKE Operator with Wildcard Patterns

Pattern	Description
LIKE 'a%	Start with "a"
LIKE '%a'	End with "a"
LIKE '%am%'	Have "am" in any position
LIKE 'a%m'	Start with "a" and Ends with "m"
LIKE '_a%	"a" in the second position
LIKE '__a%	"a" in the third position
LIKE '_oy'	"o" in the second and "y" in the third position

11. MySQL LIKE Operator - Wildcards Tutorial in Hindi - Urdu(720P HD)

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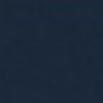
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SELECT with LIKE Operator Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **LIKE** pattern;

SELECT column1, column2, column3,

FROM table_name

WHERE column_name **NOT LIKE** pattern;



SELECT Data with Regular Expression

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan	19	Female
Sarita Kumari	21	Female
Anil Kapoor	20	Male

WHERE Name REGEXP "khan\$ | poor"

Name	Age	Gender
Salman Khan	18	Male
Meera Khan	19	Female
Anil Kapoor	20	Male



Regular Expression Patterns with Description

Sign	Pattern	Description
^	'^ra'	Beginning of string
\$	'an\$'	End of string
[...]	'[rms]'	Any character listed between the square brackets
^ [...]	'^[rms]'	Begins with Any character listed between the square brackets
[a-z]	'[a-h]e'	Match with in the range
p1 p2 p3	'tom dick harry'	matches any of the patterns p1, p2, or p3



SELECT with Regular Expression Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE column_name REGEXP pattern;



SELECT Data with ORDER BY

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan	19	Female
Sarita Kumari	21	Female
Anil Kapoor	20	Male

Ascending Order

Name	Age	Gender
Anil Kapoor	20	Male
Meera Khan	19	Female
Ram Kumar	19	Male
Salman Khan	18	Male
Sarita Kumari	21	Female



ORDER BY Name ASC

ORDER BY Name DESC

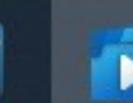


SELECT with ORDER BY Syntax

SELECT column1, column2, column3,

FROM table_name

ORDER BY column1, column2, ASC | DESC;





SELECT Data with IS NULL

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan		Female
Sarita Kumari	21	Female
Anil Kapoor	20	Male

WHERE Age IS NULL

Name	Age	Gender
Meera Khan		Female

14. MySQL IS NULL _ IS NOT NULL Tutorial in Hindi _ Urdu(720P_HD)

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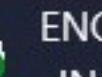
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SELECT with IS NULL Syntax

SELECT column1, column2, column3,

FROM table_name

WHERE column IS NULL;

SELECT column1, column2, column3,

FROM table_name

WHERE column IS NOT NULL;



SELECT Data with LIMIT

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan	20	Female
Sarita Kumari	21	Female
Anil Kapoor	20	Male
Shahid Kapoor	19	Male
Virat Kohli	21	Male

LIMIT 3

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	18	Male
Meera Khan	20	Female

`SELECT * FROM student;`



SELECT with LIMIT Syntax

```
SELECT column1, column2, column3, ....  
      FROM table_name  
      WHERE condition  
      LIMIT number;
```



SELECT Data with Aggregate Functions

Employee Table

Name	Age	Gender	Salary
Ram Kumar	19	Male	4500
Salman Khan	18	Male	5200
Meera Khan	20	Female	6000
Sarita Kumari	21	Female	8500
Anil Kapoor	20	Male	6300
Shahid Kapoor	19	Male	4800
Virat Kohli	21	Male	5700

COUNT(column_name)

MAX(column_name)

MIN(column_name)

SUM(column_name)

AVG(column_name)



SELECT with Aggregate Functions Syntax

SELECT COUNT(column_name)

FROM table_name

WHERE *condition*;

SELECT SUM(column_name)

FROM table_name

16. MySQL Count Sum Min Max Avg Tutorial in Hindi _ Urdu(720P_HD)

WHERE *condition*;

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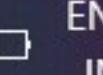


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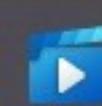
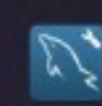


How to update data in Tables with SQL ?

Employee Table

Name	Age	Gender	Salary
Ram Kumar	19	Male	4500
Salman Khan	18	Male	5200
Meera Khan	20	Female	6000
Sarita Kumari	21	Female	8500
Anil Kapoor	20	Male	6300

UPDATE Command





UPDATE Syntax

UPDATE `table_name`

`SET column1_name = value1, column2_name = value2,...`

`WHERE condition;`



How to Rollback your work in MySQL ?

Employee Table

Id	Name	Age	Salary
1	Ram Kumar	19	4500
2	Salman Khan	18	5200
3	Sarita Kumari	21	8500
4	Anil Kapoor	20	6300

UPDATE employee
SET Age = 22
WHERE Id = 3;

COMMIT;

UPDATE employee
SET Salary = 6000
WHERE Id = 2; X

ROLLBACK;



COMMIT & ROLLBACK Works for :

- INSERT
- UPDATE
- DELETE



How to delete data from Tables with SQL ?

Employee Table

Name	Age	Gender	Salary
Ram Kumar	19	Male	4500
Salman Khan	18	Male	5200
Meera Khan	20	Female	6000
Sarita Kumari	21	Female	8500
Anil Kapoor	20	Male	6300



DELETE Command



DELETE Syntax

DELETE FROM table_name

WHERE *condition*;

DELETE FROM table_name;



List of Constraints in MySQL

- NOT NULL
- UNIQUE
- DEFAULT
- CHECK
- PRIMARY KEY
- FOREIGN KEY

- Primary key always has unique data.
- A primary key cannot have null value.
- A table can contain only one primary key constraint.

Student Table

PRIMARY KEY



- Unique Data
- No Null Value

Id	Name	Age	City
1	Ram Kumar	19	Agra
2	Salman Khan	18	Bhopal
3	Meera Khan	19	Agra
4	Sarita Kumari	21	Delhi



Create Table with PRIMARY KEY Syntax

```
CREATE TABLE table_name (
    id INT NOT NULL AUTO_INCREMENT,
    name VARCHAR(50) NOT NULL,
    age INT NOT NULL,
    city VARCHAR(10) NOT NULL ,
    PRIMARY KEY (id)
);
```



Alter Table with PRIMARY KEY Syntax

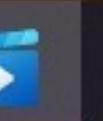
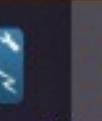
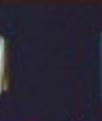
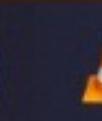
```
ALTER TABLE table_name  
ADD PRIMARY KEY (id);
```





What is FOREIGN KEY Constraint ?

- A FOREIGN KEY is a key used to link two tables together.
- A FOREIGN key in one table used to point PRIMARY key in another table.





FOREIGN KEY in Table

Student Table

Id	Name	Age	City
1	Ram Kumar	19	1
2	Salman Khan	18	2
3	Meera Khan	19	1
4	Sarita Kumari	21	3

PRIMARY KEY

FOREIGN KEY

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi

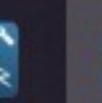
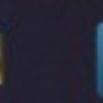
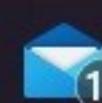
PRIMARY KEY

Link



Create Table with FOREIGN KEY Syntax

```
CREATE TABLE student(
    id INT NOT NULL AUTO_INCREMENT,
    name VARCHAR(50) NOT NULL,
    age INT NOT NULL,
    city VARCHAR(10) NOT NULL ,
    PRIMARY KEY (id),
    FOREIGN KEY (city) REFERENCES City (cid)
);
```





Alter Table with FOREIGN KEY Syntax

```
ALTER TABLE table_name  
ADD FOREIGN KEY (city) REFERENCES City (cid);
```



JOIN Two Tables

INNER JOIN

Student Table

Id	Name	Age	City
1	Ram Kumar	19	1
2	Salman Khan	18	2
3	Meera Khan	19	1
4	Sarita Kumari	21	3

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi
4	Noida





INNER JOIN Syntax

SELECT columns

FROM table1

INNER JOIN table2

ON table1.column_name = table2.column_name;



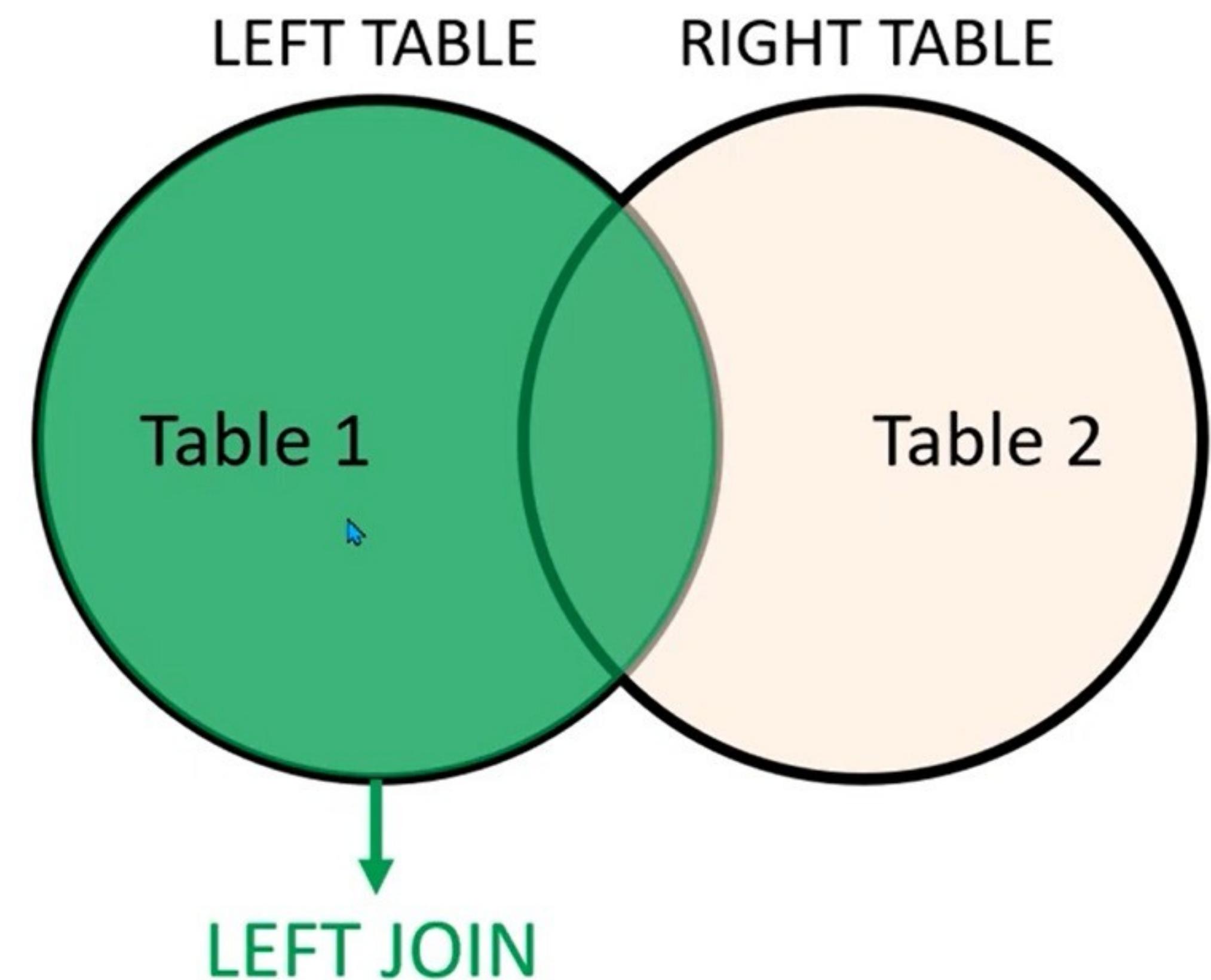
FOREIGN KEY



PRIMARY KEY



What is LEFT JOIN ?



**The LEFT JOIN returns all records from the left table (table1),
and the matched records from the right table (table2)**



JOIN Two Tables

LEFT JOIN

Student Table

Id	Name	Age	City
1	Ram Kumar	19	1
2	Salman Khan	18	2
3	Meera Khan	19	
4	Sarita Kumari	21	3

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi
4	Noida





LEFT JOIN Syntax

SELECT columns

FROM table1

LEFT JOIN table2

ON table1.column_name = table2.column_name;

FOREIGN KEY

PRIMARY KEY



Types of JOINS in MySQL

- INNER JOIN
- LEFT JOIN
- RIGHT JOIN
- CROSS JOIN



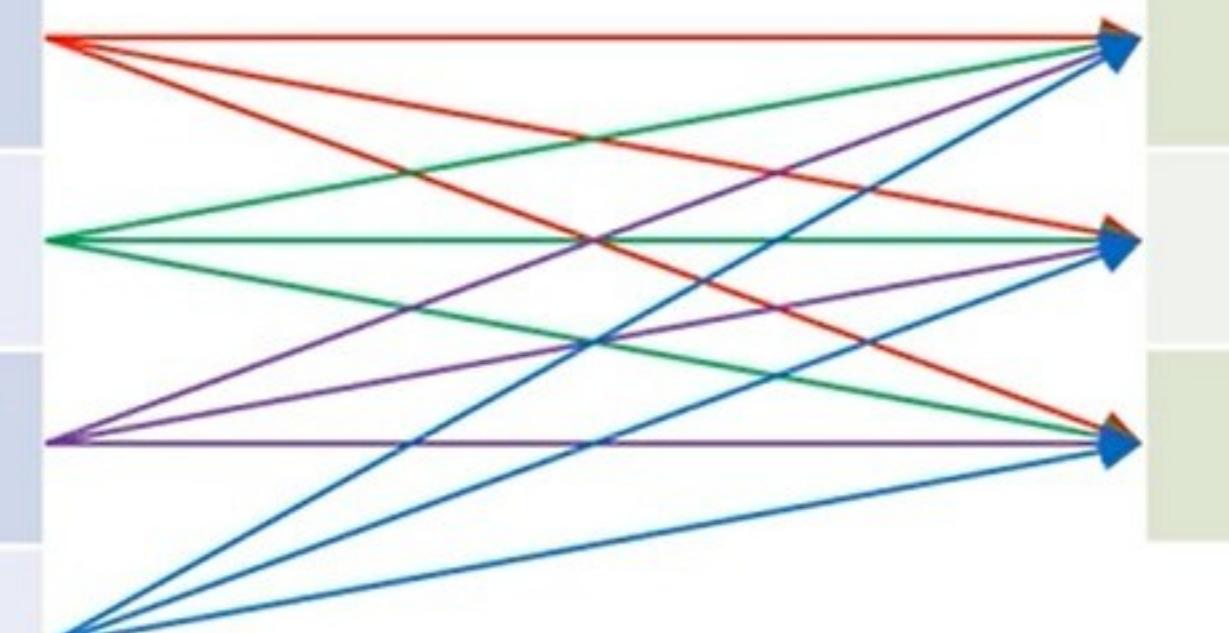
CROSS JOIN Two Tables

Student Table

Id	Name	Age
1	Ram Kumar	19
2	Salman Khan	18
3	Meera Khan	19
4	Sarita Kumari	21

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi





CROSS JOIN Result

Id	Name	Age	Cid	City
1	Ram Kumar	19	1	Agra
2	Ram Kumar	19	2	Bhopal
3	Ram Kumar	19	3	Delhi
4	Salman Khan	18	1	Agra
5	Salman Khan	18	2	Bhopal
6	Salman Khan	18	3	Delhi
7	Meera Khan	19	1	Agra
8	Meera Khan	19	2	Bhopal
9	Meera Khan	19	3	Delhi
10	Sarita Kumari	21	1	Agra
11	Sarita Kumari	21	2	Bhopal
12	Sarita Kumari	21	3	Delhi



CROSS JOIN Syntax

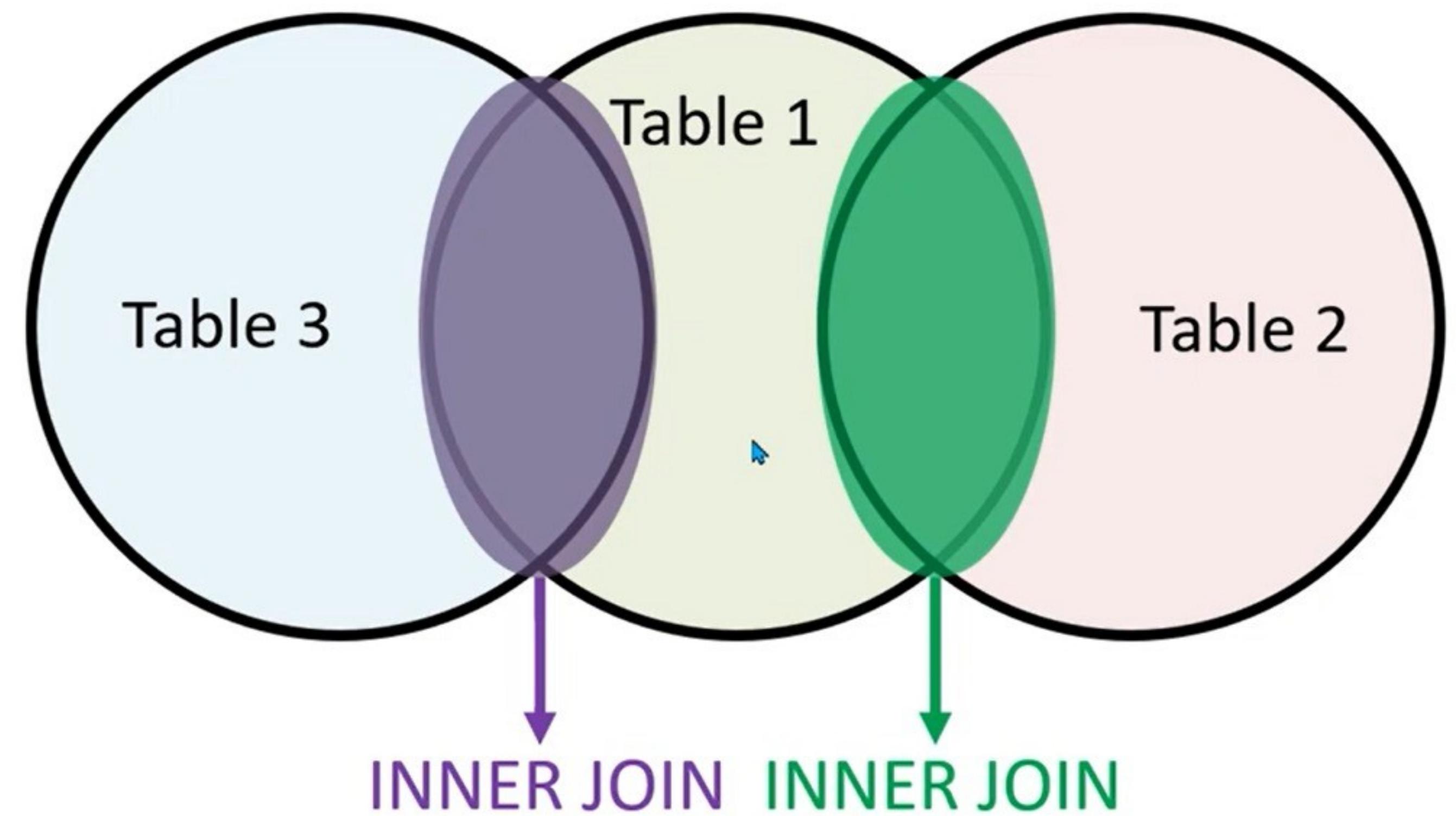
SELECT columns

FROM table1

CROSS JOIN table2;



How to JOIN Multiple Tables ?





JOIN Three Tables

Student Table

Id	Name	Age	Courses	City
1	Ram Kumar	19	1	1
2	Salman Khan	18	3	2
3	Meera Khan	19	1	1
4	Sarita Kumari	21	2	3

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi
4	Noida

Courses Table

Crid	Course
1	Btech
2	BCA
3	BBA





INNER JOIN Syntax for Multiple Tables

SELECT columns

FROM table1

INNER JOIN table2

ON table1.column_name = table2.column_name

INNER JOIN table3

ON table1.column_name = table3.column_name;

PRIMARY KEY





GROUP BY Clause

Student Table

Id	Name	Age	City
1	Ram Kumar	19	1
2	Salman Khan	18	2
3	Meera Khan	19	1
4	Sarita Kumari	21	3

City Table

Cid	City
1	Agra
2	Bhopal
3	Delhi
4	Noida

City	Total Students
Agra	2
Bhopal	1
Delhi	1

GROUP BY

The GROUP BY clause is used in conjunction with the
SELECT statement and Aggregate functions
to group rows together by common column values.



SELECT with GROUP BY Syntax

SELECT columns

FROM table_name

WHERE *condition*

GROUP BY *column_name(s)*;





SELECT with GROUP BY Syntax

SELECT columns

FROM table1 **INNER JOIN** table2

ON table1.column_name = table2.column_name

WHERE *condition*

GROUP BY *column_name(s)*;



What is SubQuery or Nested Query ?

Student Table

Id	Name	Age	Courses
1	Ram Kumar	19	1
2	Salman Khan	18	3
3	Meera Khan	19	1
4	Sarita Kumari	21	2

Courses Table

Cid	Course
1	Btech
2	BCA
3	BBA

Name

Ram Kumar

Meera Khan



SELECT with SubQuery Syntax

SELECT columns

FROM table1

WHERE

column = (**SELECT** columns **FROM** table2 **WHERE** condition);

INSERT

UPDATE

DELETE

SELECT



UNION & UNION ALL Syntax

`SELECT column1, column2 FROM table1`

`UNION / UNION ALL`

`SELECT column1, column2 FROM table2;`



- Each SELECT statement within UNION must have the same number of columns
- The columns must also have similar data types
- The columns in each SELECT statement must also be in the same order

Student Table

Id	Name	Percentage
1	Ram Kumar	57
2	Salman Khan	28
3	Meera Khan	81
4	Sarita Kumari	45

City Table

Id	Name	Percentage	Result
1	Ram Kumar	57	PASS
2	Salman Khan	28	FAIL
3	Meera Khan	81	PASS
4	Sarita Kumari	45	PASS



IF Clause

Percentage $\geq 33\%$ → Pass
 Percentage $< 33\%$ → Fail



SELECT with IF Clause Syntax

```
SELECT column1, column2,  
IF (Condition, TRUE Result, FALSE Result ) AS alias_name  
FROM table_name;
```



List of Arithmetic Functions in MySQL

- PI()
- ROUND()
- CEIL()
- FLOOR()
- POW()
- SQRT()
- RAND()
- ABS()
- SIGN()
- SIN()
- COS()
- TAN()
- ASIN()
- ACOS()
- ATAN()
- ATAN2()
- COT()
- RADIANS()



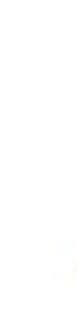
MySQL Arithmetic Functions

ABS()

-6.2

6.2

6.2



FLOOR()

4.3

4.8

4



CEIL()

4.3

4.8

5



ROUND()

4.3

4.8

4

5





MySQL Arithmetic Functions

$$\sqrt{4} = 2$$

POW(base, exp)

$$(4)^3$$

SQRT(number)

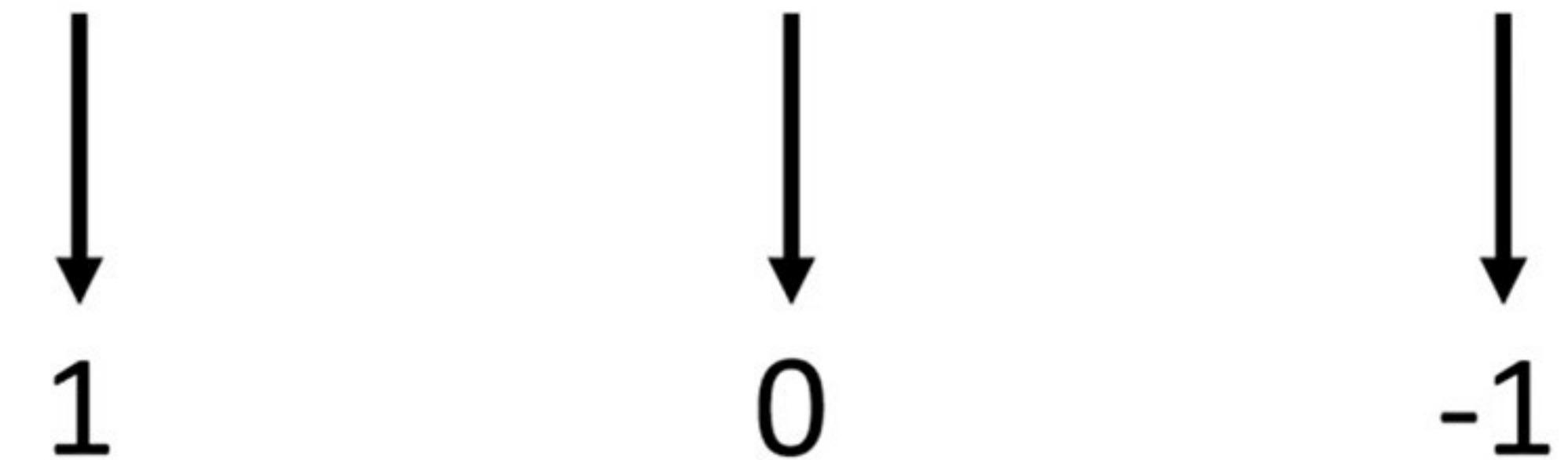
$$4 \times 4 \times 4 = 12$$



MySQL Arithmetic Functions

SIGN(number)

(no. > 0) (no. = 0) (no. < 0)





MySQL Arithmetic Functions

RAND()



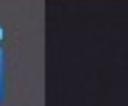
Random Number
Between 0 and 1





List of String Functions in MySQL

- UPPER() / UCASE()
- LOWER() / LCASE()
- LENGTH()
- CHAR_LENGTH()
- CONCAT()
- CONCAT_WS()
- LTRIM()
- RTRIM()
- TRIM()
- POSITION()
- LOCATE()
- INSTR()
- SUBSTRING() / SUBSTR()
- MID()
- SUBSTRING_INDEX()
- LEFT()
- RIGHT()
- LPAD()
- RPAD()
- SPACE()
- REVERSE()
- REPEAT()
- REPLACE()
- STRCMP()
- FIELD()
- FIND_IN_SET()
- FORMAT()
- HEX(str)



SQL SQL i + f o SQL

Navigator: students x students

SCHEMAS

Filter objects

phpmyadmin

student

Tables

city

courses

students

Views

Stored Procedures

Functions

yb

Administration Schemas

Information

No object selected

1 • **SELECT id, UPPER(name) AS Name , percentage**

2 **FROM students;**

3

Result Grid | Filter Rows: Export: Wrap Cell Content:

	id	Name	percentage
▶	1	RAM KUMAR	45
	2	SARITA KUMARI	85
	3	SALMAN KHAN	39
	4	JUHI CHAWLA	47
	5	ANIL KAPOOR	74
	6	JOHN ABRAHAM	64
	7	SHAHID KAPOOR	62

SQL SQL i + f o SQL

Navigator: students x students

SCHEMAS

Filter objects

phpmyadmin

student

Tables

city

courses

students

Views

Stored Procedures

Functions

yb

1 • **SELECT SUBSTRING("Yahoo Baba",3,6) AS Name;**

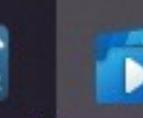
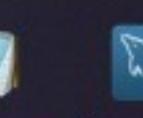
Result Grid | Filter Rows: Export: Wrap Cell Content:

Name
o Baba

No object selected



Type here to search





List of Date Functions in MySQL

- CURDATE
- CURRENT_DATE
- SYSDATE
- NOW
- LAST_DAY
- DAY
- DAYNAME
- DAYOFMONTH
- DAYOFWEEK
- DAYOFYEAR
- WEEK
- WEEKDAY
- WEEKOFYEAR
- YEAR
- YEARWEEK
- EXTRACT
- DATE_ADD
- ADDDATE
- MAKEDATE
- DATE_SUB
- SUBDATE
- DATEDIFF
- TO_DAYS
- FROM_DAYS
- PERIOD_ADD
- PERIOD_DIFF
- DATE_FORMAT
- STR_TO_DATE



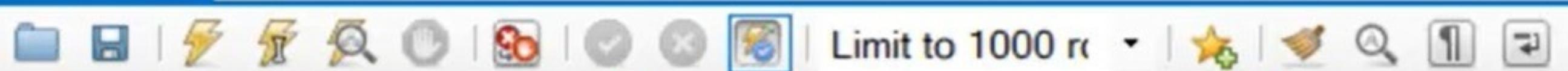
List of addunits

- MICROSECOND
- SECOND
- MINUTE
- HOUR
- DAY
- WEEK
- MONTH
- QUARTER
- YEAR
- SECOND_MICROSECOND
- MINUTE_MICROSECOND
- MINUTE_SECOND
- HOUR_MICROSECOND
- HOUR_SECOND
- HOUR_MINUTE
- DAY_MICROSECOND
- DAY_SECOND
- DAY_MINUTE
- DAY_HOUR
- YEAR_MONTH



List of Time Functions in MySQL

- CURTIME()
- CURRENT_TIMESTAMP
- LOCALTIME
- LOCALTIMESTAMP
- TIMESTAMP
- TIME
- TIMEDIFF
- HOUR
- MINUTE
- SECOND
- MICROSECOND
- ADDTIME
- SUBTIME
- MAKETIME
- TIME_FORMAT
- SEC_TO_TIME
- TIME_TO_SEC

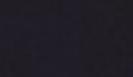
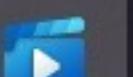
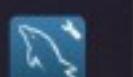
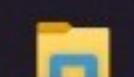


1 SELECT CURRENT_TIMESTAMP();



Result Grid | Filter Rows: Export: Wrap Cell Content:

CURRENT_TIMESTAMP()
2019-12-16 03:36:13





List of Time Format

02:30:27:00 PM

Time Format

Hour

%h (01 to 12)

%H (00 to 23)

%g (1 to 12)

%G (0 to 23)

Minutes

%i (00 to 59)

Seconds

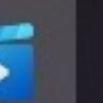
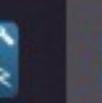
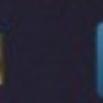
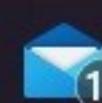
%s (00 to 59)

Microseconds

%f (000000 to 999999)

Meridiem

%p (AM or PM)





How to Modify Tables in Database ?

Student Table

Name	Age	DOB
Ram Kumar	19	1998-02-10
Salman Khan	17	1999-07-22
Meera Khan	19	1998-05-11
Sarita Kumari	21	1996-10-15
Anil Kapoor	20	1997-03-12

New Column

Gender
Male
Male
Female
Female
Male

VARCHAR Reorder
↓
INT

ALTER Command



Features of MySQL ALTER Command :

- Add Column in a table
- Changing Data Type of a Column
- Change Column Name
- Adding Constraints to a Column
- Changing Column Position
- Delete Column
- Renaming Tables



ALTER Syntax

Add Column

```
ALTER TABLE table_name  
ADD column_name datatype;
```

Modify Column

```
ALTER TABLE table_name  
MODIFY column_name datatype;
```

Delete Column

```
ALTER TABLE table_name  
DROP COLUMN column_name datatype;
```



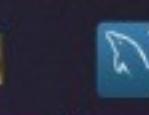
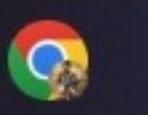
ALTER Syntax

Rename Column

```
ALTER TABLE table_name  
CHANGE column_name New_name datatype;
```

Rename Table

```
ALTER TABLE table_name  
RENAME new_table_name;
```





MySQL DROP & Truncate

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	22	Male
Meera Khan	21	Female
Sarita Kumari	18	Female
Anil Kapoor	22	Male

Student Table

Name	Age	Gender

DROP Command

TRUNCATE Command



DROP & TRUNCATE Syntax

`DROP TABLE table_name;`

`TRUNCATE TABLE table_name;`



MySQL JOIN

Student Table

Id	Name	Age	City
1	Ram Kumar	19	1
2	Salman Khan	18	2
3	Meera Khan	19	1
4	Sarita Kumari	21	3

City Table

Cid	CityName
1	Agra
2	Bhopal
3	Delhi
4	Noida

INNER JOIN

Id	Name	Age	City
1	Ram Kumar	19	Agra
2	Salman Khan	18	Bhopal
3	Meera Khan	19	Agra
4	Sarita Kumari	21	Delhi

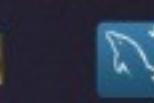
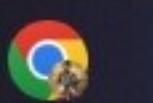
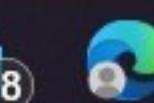


MySQL INNER JOIN Syntax

Notepad file

```
SELECT columns  
FROM student  
INNER JOIN city  
ON student.city = city.cid;
```

Save in Database → VIEW Command





VIEW Syntax

```
CREATE VIEW view_name
AS
SELECT columns
FROM student
INNER JOIN city
ON student.city = city.cid;
```



What is Index ?

INDEX PAGE

Ch. No.	Chapter	Page No.
1	ABC	3
2	XYZ	15
3	EFG	23
4	IJK	29
5	RST	37

Student Table

Name	Age	Gender
Ram Kumar	19	Male
Salman Khan	22	Male
Meera Khan	21	Female
Sarita Kumari	18	Female
Anil Kapoor	22	Male

INDEX Command



INDEX Syntax

```
CREATE INDEX index_name
```

```
ON table_name(column1, column2, column3, .... );
```

```
DROP INDEX index_name
```

```
ON table_name;
```





Guidelines of Index :

- Automatically creates the indexes for PRIMARY KEY and UNIQUE columns.
- Index columns that you frequently use to retrieve the data.
- Index columns that are used for joins to improve join performance.
- Avoid columns that contain too many NULL values.
- Small tables do not require indexes.

