

11-03-2025

Ques-3 Primary Key  $\Rightarrow$  Data ko uniquely identify karata hai.

Duplicate value  $\rightarrow$  Not allowed (x)

Null value  $\rightarrow$  Not allowed (x)

Unique value  $\rightarrow$  Always unique (v)

One per table  $\rightarrow$  Only one Primary key (v)

Ex:- Account No.  
Student ID

Ex:- CREATE TABLE Students (

StudentID INT PRIMARY KEY,  
Name VARCHAR (150),  
Age INT,

CLASSMATE

Date  
Page

Ques-4 Can we a table have multiple primary key? why or why not.

Ans:- No, Only one primary key can be in a table.

But if primary key ~~is~~ ke under ek se Jada column oka combination ho skta hai.

# why  $\Rightarrow$  database confused as to which key to give priority.

It becomes difficult to uniquely identify the data.

$\rightarrow$  Single Primary key

allowed (Yes)

Ex:- Student ID

$\rightarrow$  Multiple ..

Not "

Ex:- Student ID, Email

$\rightarrow$  Composite ..

Yes:

Order ID + Product ID

$\rightarrow$  do  $\rightarrow$  do se Jada column ki mila one Primary key Banana.

$\rightarrow$  It means that the combination of both column should be unique.

Ex:- Order ID or Product ID

CREATE TABLES Order (  
OrderID INT, ProductID INT, Quantity INT,  
Primary Key (OrderID, ProductID))

Ques-5 Auto\_Increment  $\Rightarrow$  It is attribute

$\rightarrow$  It generates automatically unique ID no. does assign

$\rightarrow$  When we insert new record, my SQL automatically ~~give~~ unique a unique no.

$\rightarrow$  Har new record ka ID automatically o. I se increases Hota Hai.

$\rightarrow$  Job table me primary key Ya ID number hona zaruri Hoi, aur Ham chahte ho ki har nya record ko automatic unique ID mile, tab then we use Auto\_Increment.

Ques-7 How do you create a foreign key relationship b/w two table?

$\rightarrow$  It create relationship b/w two table.

+ It maintains data consistency.

+ Ghalat data entry hone se prevent Karne.

CREATE TABLE Courses (chile table) →  
 CourseID INT PRIMARY KEY,  
 CourseName VARCHAR(100),  
 StudentID INT  
 foreign key (StudentID) REFERENCES Students(StudentID);

Ques 7  
Ans 7  
Varichar (variablechar)

Text

usecase - short text like Name, Email, etc  
 length - define maximum length (like Varichar255)  
 Indexing - Indexing Possible (Fast search)  
 Storage size - It consumes less storage  
 Fast performance.

Blogs etc

long text like description, comment  
 Fixed large text size (64 Kb)

Indexing nahi hoti.

consume more storage  
 slow performance.

- Ans 8 : What is default storage engine in MySQL, and why it is used.  
 → In MySQL, the default storage engine is InnoDB.  
 because it supports ACID properties, foreign key constraints, crash recovery, and high performance.  
 → It also prevent data loss in case of server failure.  
 (Atomicity) A : either the entire transaction will be complete or nothing  
 (Consistency) C : Data will always be consistent  
 (Isolation) I : One transaction separate from other,  
 D : data will never be lost, even after a crash  
 Durability

Storage engine : How to store data in SQL database.

Ques 9 : How can you modify an existing table to add a new column?

Ans : We can use - ALTER TABLE to add new column.

[ALTER TABLE table-name  
 ADD column\_name datatype;]

ALTER TABLE student  
 ADD email VARCHAR(100)

Ques 10 : How do you insert multiple rows into a table with a single query.

INSERT INTO table-name (column1, column2, column3...)

VALUES

(Value1, Value1-2, Value1-3, ...),  
 (Value2, Value2-2, , );

Ques-13 What happens if you try to insert a record with a duplicate Primary Key?

- In SQL query, if you try to insert a record with a duplicate Primary key, the insertion will fail, and you will get an error.
- This is because the Primary Key column is designed to only contain unique values - means no two rows can have the same value for the Primary key.

Ques-14 Can we skip a specific column

Autoincrement Primary Key

Yes  
(can you skip this column)

Value auto generate

Column with default value

(Yes)

default value is used

Column allowing NULL

Yes

insert NULL values.

Ques-15 How can you insert a record with NULL values.

→ `INSERT INTO table-name (column1, column2, column3)  
VALUES (value1, NULL, value3);`

Ques-16 Write an SQL statement to insert a record into Courses where only course name is provided.

⇒ Insert course name and skip other columns.

`INSERT INTO Courses (CourseName)  
VALUES ('BBMS');`

Ques-17 How do you use the Default keyword while inserting data.

→ default keyword is used in the INSERT INTO statement when you want to insert the default value defined for a column in a table.

Ques-18 What happens if we insert a string into an integer column

→ If string contains a valid no. (like "123"), MySQL will successfully convert it to an integer and insert it without any error.

Ques-19 Write an SQL query to retrieve all columns from the 'Students' table.

`[SELECT * FROM Students ;]`

Ques-20 How do you retrieve only [first name and age] from the Students table?

`{ } SELECT FirstName, Age  
FROM Students ;`

retrieve  
only

what does the **DISTINCT** keyword do in a **SELECT** statement?

The **DISTINCT** keyword is used in a **SELECT** statement to remove duplicate values from the result set, ensuring that only unique records are returned.

find total no. of student & [ **SELECT COUNT(\*) AS TotalStudents  
FROM Students;** ] ?

Using [AND]

→ **SELECT \***

**FROM Students**

**WHERE Major = 'CS'**  
**AND age > 20;**

purpose of the **order BY**

organize the output in a specific order (ASC | DESC)

make it easier to analyze or read the data.

→ [ **SELECT \* column1, column2 ...  
FROM table-name**

**ORDER BY column-name [ASC|DESC]** ]

write query & whose name start with 'A' .

→ **SELECT \***

**FROM Students**

**WHERE name LIKE 'A%';**

Highest salary of the employee → **SELECT \***

**FROM Employees;**

**DESC** → highest order ← **ORDER BY salary DESC**

[ **only return top 5** ] ← **LIMIT 5;**

tip **LIMIT** &

**SELECT \* column1, column2, ...  
FROM table-name  
LIMIT no.of.rows;**

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filters records using the **BETWEEN** operator:

→ To find specific range of values.

**SELECT \* column1, column2, ...  
FROM table-name  
WHERE column-name BETWEEN value1 AND value2;**

classmate  
Date \_\_\_\_\_  
Page \_\_\_\_\_

10  
19  
ro

⑨ Group By

FROM Students  
WHERE joining-date > '2025-03-02';  
 $\frac{o}{o} \rightarrow$  Group similar data from a table.  
- Perform aggregate fun like COUNT(), SUM(),  
AVG(), MIN(), MAX().

(40)  
SELECT major, COUNT(id) AS total\_students  
FROM Students  
GROUP BY major;

⑩ Purpose of HAVING clause

HAVING clause is similar to the WHERE clause,  
WHERE → Filters row before grouping (row level).  
HAVING → " groups after " (group level).  
SELECT column\_name, AGGREGATE FUNCTION  
(column\_name)  
FROM table\_name  
SELECT course\_name, COUNT(id) AS total\_students  
FROM Students  
GROUP BY course\_name  
HAVING COUNT(id) > 2;

⑪ Average age of students:-

SELECT AVG(age) AS average\_age  
FROM Students;

⑫ Highest Credits

SELECT course-name, credits  
FROM Courses

WHERE credits = (SELECT MAX(credits)  
FROM Courses);

⑬ SELECT \*  
FROM STUDENTS

WHERE LastName LIKE '%SON%';

% - Wildcard

% SON - matches string

INNER JOIN returns only the records that have matching values in both tables.  
If a record from Table A has no match in Table B it will not appear in the result.

SELECT Student.Name, Courses.CourseName  
FROM Students  
INNER JOIN Courses

(9)

Exists &

SELECT 'Record exists'  
FROM Students  
WHERE EXISTS (

SELECT 1  
FROM Students

WHERE Name = 'Alice')  
jj