

SQL

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CH-1 - MySQL introduction

- * Database: systematic
 - DB is a collection of data. They support storage & manipulation of data.
- * Database Management Systems (DBMS):
 - DBMS is a collection of programs which enables its users to access db, manipulate data and report / represent data.
- * MySQL → what is ?
 - MySQL is an open source, multithreaded & relational database management system.
- * MySQL → client programs
 - It is a command line pgm that acts as a text-based front end for the server.
- * SQL - query structured language is the standard language used for managing data held in RDBMS.

Q3)

Q6)

i)

{ii)
iii)}

Q4)

A, C

3)

{iv)
i)}

Q5)

D

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- * Create DATABASE [IF NOT EXISTS] database_name;
- * SHOW DATABASES;
- * USE database_name;
- SELECT DATABASE();
- * DROP DATABASE [IF EXISTS] database_name;

Q.1)

a) a table, view & stored procedure.

Q.2)

d) (db names are case insensitive)

Q.3)

b) it is a collection of data.

Q.4)

c) it is a collection of data.

Q.5)

Table

→ Table is a collection of related data held in a structured format within a database.

→ CREATE TABLE [IF NOT EXISTS]
table_name (column-list)

* Identifiers:

Identifiers is the name given to database tables, columns, stored procedures, triggers & views.

* MySQL datatypes:

tinyint	float	char	unspecified	null
smallint	double	varchar	auto-increment	not null
mediumint	decimal	enum	zerofill	Default
int		set		
bigint		text		

Q.1) DDL

Q.2) C near 'tab-3(a int)'

Q.3) C near '3'

Q.4) A. wrong cuz name has #

B. X only has digits

C. X cuz it is a keyword

D ✓

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* Integers

Q.5) Integer type includes tinyint, smallint, mediumint, INT & BIGINT

* Floating-point:

- It includes float & double.

* Fixed-point:

- It includes decimal.

* Char:

- It is a fixed length datatype.

* varchar:

- It is a variable length datatype.

* Enum:

- Enum types are used for one of the values from the specified list of strings.

* Set:

- Set types are used for zero or more values from the specified list of strings.

Q.1) A

Q.5) B

Q.2) D

Q.6) D

Q.3) D

Q.7) A

Q.4) B

Q1-4

Q.1) B

Q.2) C

Q.3) C

Q.4) X-W ← In question (correction)

Q.5) B

Q.6) D

* Delete:

⇒ TRUNCATE [TABLE] table-name

* Rename:

RENAME Table old-name TO new-name

* Drop:

Drop Table [if exists] table-name

Q.1) B

Q.2) A

Q.3) B

Q.4) A

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* Insert Statement:

→ Insert [INTO] table-name [(column-list)]

* Insert & errors

- If we violate primary key then we get:

error 1602(23000): Duplicate entry '11' for key 'PRI'

- If the column name is wrong then we get:

error 1054 (42S22): Unknown column 'locat' in

* Insert ignore Statement:

→ Insert ignore [INTO] table-name [(column-list)]

* Update Stmt:

- Update table-name

* Delete Stmt:

- delete from table-name

* Replace Stmt:

- Replace Stmt is used to add row to table
& if the row is duplicate then it would delete & insert.

Q.1) C

Q.2) D

Q.3) A

Q.4) C

Q.5) D

Q.6) D

Q.7) B

Q.8) B

Q.9) D

Q.10) B

Q.11) A & C

delete

truncate

dml

ddl

Can be rollback

Cannot be rollback

(means data can be brought back)

can use where clause

where cannot be used

can remove few / all rec; remove all rec

will ai re-initialize

ai-rein

& not reinitialize

it will reinitialize

auto-increment column

* Select Stmt

• Select Stmt is used to retrieve data from table

* All columns

• * is used to for retrieving all columns

from the table

* Few cols:

• Column names can be used for retrieving specific columns

* Distinct data :

- To eliminate duplicate rows, we can include the distinct keyword.

* Column arithmetic :

$$(H) \rightarrow X, /, \text{DIV}, \% \quad (\text{L to R})$$

$$(C) \rightarrow +, -$$

* Where clause :

- Where clause is used with Select Statement to filter the rows in the base table so only the rows you need are retrieved.

* Pattern clause :

- Pattern clause is used with Select Statement to filter the rows in the base table so only the rows you need are retrieved.

* Order by :

- Order by clause specifies how we want the rows in the result set to be sorted.

* limit :

- limit clause is to limit the number of rows returned by the Select Statement.

Q.1) A

Q.2) B, C, D

Q.3) D

Q.4) B

Q.5) B

Q.6) D

Q.7) C

Q.8) B

Q.9) A

Q.10) D

Q.11) A

Q.12) B

Q.13) C

Q.14) A & C

(in between both the ranges
are inclusive)

Q.15) A & D

Q.16) D

Q.17) A & C

18) d

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* Join :

- Join combines columns from 2 or more tables into a result set based on the join conditions you specify.

* Inner join :

- For an inner join only those rows that satisfy the join condition are included in the result set.

Outer join :

Outer join retrieves all rows that satisfy the join condition, plus unmatched rows in the left or right side of table.

Q.1) D

Q.2) C

Q.3) B

Q.4) D

Q.5) C

Q.6) A

Q.7)

* Agg func:

- These are func that perform some calculation on a set values and then return a single summary value.

* Max & Min:

- largest or smallest numerical values.

Q.1) D

Q.2) B

Q.2) A (Null value will be ignored)

* Subquery:

sq. is a Select Stmt that coded within another SQL Stmt

* Subquery & operators:

If Subquery returns a list of values then we must use quantified comparison like in, all, ~~not~~ any/some

Q.1) B

Q.2) D (inner query is not proper)

Q.3) D

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* Views:

Views behaves like virtual table, it doesn't store any data, instead a view always refer back to its base table.

* Data Security:

- Views can restrict access to data in the table by using select for columns & where the rows from the base table to be included in the view.

Q.1) C

Q.2) D (col-name & col no.
Should match)

Q.3) B & D

Q.4) C

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* Stored routines:

- stored routines are group of SQL & PL/SQL statements which perform a specific task.

* stored

Stored procedures (also called Sproc or procedure) is an executable database object that contains a block of procedural SQL code.

* Declare variables

→ declare variable-name data-type [default literal_value];

* Select ... INTO

* Set variables;

Set variable-name = literal-value-or-expression;

Q.1) C & D

Q.2) B

Q.3) D

Q.4) A & C

Q.5) D

Q.6) C

Q.7) B

Q.8) B

Q.9) A (All declarations should be at beginning before program code)

Q.10) D

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Q.1) A

Q.2) A

Q.3) A

Q.4) B (case not found for case
stmt)

Q.5) A

* Functions :

- Functions are simply pieces of code that perform some operations and then return a result.

Q.1) C (Select length (5+20);
Select length (Q.2) A select length (char(+2)
" " (2);Q.3) D select concat ("5+7"), 6+2);
" " ("5+7", 8);
"5+78"

Q.4) A

Q.5) A select concat(left('Java', 2), right('Python', 3)).;

Q.6) D

Select right (reverse(upper('VISHAL')), 3);
 Select right(reverse('VISHAL'), 3);
 " " ("LASHIV", 3)

Q.7) B

Sel. concat(replace('Hindi', 'o', 'i'),
 'medium');
 Sel. concat('Hindi', 'medium');
 'Hindimedium'

Numerical functions :

* sqrt (function number) :

If no. is -ve then ~~ans~~ it returns null.

Q.1) A

Select(floor(9, 2))

Q.2) D

Q.3) B

Sel. ceiling(floor(34.56));

Sel. ceiling(34);

34.

* User defined functions:

- with MySQL, we can create scalar fun., which returns a single value.

Q.1) C

Q.2) A

Q.3) B

Q.4) C no return found in function

Q.5) A

* Triggers:

Trigger is a named block of code that executes/fires in response to an Insert, update or delete statement.

Q.1) C

Q.2) A & C

Q.3) B

Q.4) D

Q.5) A & C

Q.6) C & D

* Events:

MySQL "event" or "scheduled event" is named block of code that executes or fires according to

Q.1) D

Q.2) A

Q.3) C

Q.4) A, B & C

* Transaction:

- Transaction is a group of SQL statements that we combine into single logical unit of work.

Q.2) B

Q.3) A & D

Q.4) D

Q.5) d

(~~Q.2~~)