

SQL Commands

1. What is a database system?
2. What is database?
3. List out the limitations and disadvantages in file-processing system.
4. Why we need a database management system?
5. Write the advantages of DBMS.
 1. What is a data model?
 2. Which is the most commonly used data model?
 3. In relational data model, the data is organized into _____
 4. In relational data model, the data is organized into _____ and _____
 5. Write the other name for table.
 6. A row in a table represents a _____ among a set of values.
 7. What is relation?
 8. What is domain?
 9. What are tuple and attribute?
 10. What are degree and cardinality?
 11. What is a view?
 12. What are Primary key and Foreign key?
 13. What are candidate key and alternate key?
 14. What is referential integrity
 15. List out the conditions to set referential integrity.
 16. What rules can be observed after setting the referential integrity?
1. What is MySQL?
2. From where can we download MySQL?
3. Expand RDBMS.
4. Write the features of Mysql database.
5. What advantages do MySQL has compared to other RDBMSs.
6. What is MySQL database system?
7. MySQL operates using _____ architecture.
8. What is client/server architecture?
9. Differentiate Client and Server.
10. ExpandSQL.
11. In order to access data within the MySQL database, all programs and users must use _____.
12. _____ is the set of commands that is recognized by nearly all RDBMS.
13. What is structured query language?
14. What are the 3 main classifications of SQL statements? Explain with example.
15. Expand DDL, DML and TCL.
16. Differentiate DDL and DML.
17. What is a transaction? Give example.
 1. What is a datatype? Name some commonly used datatypes of MySQL.
 2. The difference between char and varchar is that of _____ and _____.
 3. Differentiate char and varchar with example.
 4. Write queries to create a table 'employee' inside the database 'Company' and insert the values as follows:

Ecode	Ename	Sex	Grade	Gross
101	Raj	M	E4	5000.0
102	Ravi	M	NULL	6000.0
103	Ramu	M	E3	7000.0
104	Suja	F	E4	5000.0

5. What will happen if we omit a column which has null constraint and also no default value is specified during insertion?

6. Give the format for inserting date in a table.
7. Write the output:
 - i. Select * from employee;
 - ii. Select * from employee where grade="E4";
 - iii. Select * from employee where ename="Raj" and grade="E4";
 - iv. Select * from employee where ename ="Raj" or gross=6000.00;
 - v. Select ecode,ename from employee;
 - vi. Select ename from employee where grade='E4';
 - vii. Select distinct grade from employee;
 - viii. Select all grade from employee;
 - ix. Desc employee;
 - x. Select curdate();
 - xi. Select 3.14*2*2;
 - xii. Select ename as "Employee_Name" from employee;
 - xiii. Select * from employee where ecode between 101 and 103;
 - xiv. Select * from employee where ename in ('Raj','Ravi','Ragu');
 - xv. Select * from employee where ename not in ('Raj','Ravi','Ragu');
 - xvi. Select ename from employee where ename like 'R%';
 - xvii. Select ename from employee where ename like '%a';
 - xviii. Select ename from employee where ename like '___';
 - xix. Select ename from employee where ename like 'R___';
 - xx. Select * from employee where grade IS NULL;
 - xxi. Select * from employee where grade IS NOT NULL;

1. List out the constraints in SQL and give description.
2. What is a constraint?
3. Write a query to create a parent table with 5 columns, each column should have a constraint. Apply the following constraint. [Not null, default, unique, check, primary key]. Now create a child table with foreign key constraint.

1. Write the difference between Unique and Primary Key.
2. Name the constraint that is ignored by MySQL.
3. Give example to create primary key constraint in 2 different ways.
4. Give example for creating a composite primary key.
5. Differentiate primary key and composite key.

1. Write query to add primary key to an existing table.
2. Referential integrity is ensured through _____ constraint.
3. When a table is called as a primary table or parent table and when a table is called as child table?
4. What is the other name for parent table?
5. What is the other name for child table?

1. Give example to add foreign key constraint to any existing table.
2. What should we do when we find that foreign key constraint is being ignored? Give example.
3. What is table constraint?
4. Where does the table constraint appear in create query?
5. Differentiate table constraint and column constraint.

1. Give query to derive data from one table and insert it into another.
2. Write query for the following:
 - i. To change the salary of an employee to 60000 whose eno is 101 in the 'employee' table?
 - ii. Delete the rows from 'employee' where salary is below 20000.
 - iii. Delete all the contents in table.

- iv. Delete the salary column
 - v. Change the datatype of 'eno' column from int to char.
 - vi. To change the column name 'eno' as 'Employee_no'.
 - vii. To drop the table.
 - viii. To drop the table after checking its existence.
3. What is SQL join? Give example.
 4. How many types of joins are there in SQL? List out and explain.
 5. What is the other name for Cartesian product?
 6. Differentiate Cartesian product and Equi join by giving queries.
 7. Name the types of equi join.
 8. Differentiate inner join and natural join.

1. Differentiate left join and right join.
2. Define indexes in database.
3. What is the need for indexes in database?

1. Write query to create a table with index.
1. Write query to create index for an existing table.

1. What clause of SQL should be used to order the result?
1. Name the keywords used with order by clause of SQL. What is the default keyword used?

2. Student:

Roll	Name	Mark	Grade	Class
1	AA	100	A	XII
2	BB	91	A	XII
3	CC	80	C	XI
4	DD	50	D	XI
5	EE	95	A	X
6	FF	NULL	E	X
7	GG	100	A	XII

Find the output:

- i. Select * from Student order by marks;
 - ii. Select * from Student order by marks asc;
 - iii. Select * from Student order by marks desc;
 - iv. Select * from Student order by class asc marks desc;
 - v. Select Name, Class, Mark+5 from Student where marks<90;
 - vi. Select Name, Class, Mark+5 as Term_marks from Student where marks<90;
3. What is custom sort? Give example.
 4. What is the need for FIELD function in order by clause?
 1. Write output: Select * from Student order by FIELD(Class, 'X', 'XL', 'XII');
 2. What is aggregate function?
 3. Write the other names for aggregate functions.
 4. List out some of the aggregate functions in SQL and write their uses.
 5. Find output:
 - i. Select avg(marks) from Student;
 - ii. Select count(*) "Total-Rows" from Student;
 - iii. Select count(distinct class) from Student;
 - iv. Select max(Mark) from Student;
 - v. Select min(Mark) from Student;
 - vi. Select sum(Mark) from Student;

- vii. `Select sum(Mark) from Student where mark>90;`
- viii. `Select avg(Mark) from Student where Class='XII' and Mark>90;`

1. Which argument can be used only with count? Will count include NULLs? If yes, why? Will the other aggregate functions of SQL include NULL?
2. Find output: `Select count(ALL Class) from Student;`
3. What will the group functions return in general?
4. Name the types of SQL functions and differentiate them.
5. What is the other name for single row function?
6. Write the use of group by clause?
7. Find output: `Select Class, count(Name) from Student group by Class;`

1. What is nested grouping in SQL? Explain.
2. Write True or False:
 - i. While grouping, values in the select list should have same value for groups or contain a group function.
 - ii. MySQL would not create any error if you include a non-group expression while grouping.
3. What is non-group field or expression?
4. What will be returned if a non-group field is given while grouping?
5. Find output: `Select Class, Grade, count(Name) from Student group by Class, Grade;`
6. Differentiate having clause and where clause.

1. Find output:
 - i. `Select sum(marks), count(Name) from Student group by Class having Class='XII';`
 - ii. `Select Class, count(*) from Student group by Class having count(*)>=2;`
2. Can we use aggregate function in having clause which is not in select list? If yes, give example.
3. Find output:
 - i. `Select Class, Grade, count(Name) from Student group by Class, Grade having Grade in ('A', 'B');`
 - ii. `Select Name, Class, Grade, Sum(marks) group by Class, Grade having sum(marks) between 100 and 200;`
1. Is it advisable to use non-group expression while grouping?