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Write the installation steps for installation of MYSQL on windows are as follows:-

1) Download MYSQL Installer for windows
2) After downloading, unzip it and double click the MSI installer.exe file.
3) Choose 'full' setup. type, then 'Next'.
4) Click 'Next' again, then 'Execute'.
5) Click product on figuration, then click 'Next'.
6) Set password, then click 'Next'.
7) Set windows service, the 'Next'.
8) Apply the configuration.
9) Once again see if product configuration done, then click 'Next' and 'Finish'.
10) Connect to server by entering the password set before.
11) Click 'Execute', Now the execution is complete and installation is done.

Pruthvi

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Output:-

Query OK, 1 row affected

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8 creation of Database in MYSQL

To create a database in MYSQL, 'Create Database' statement is used.

Syntax:-

Create Database database_name;

Execution:-

Create Database mydatabase;

Output:-

Database changed

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8 Use a Database in MySQL

To use an existing Database, 'Use' keyword is used

Syntax:-

Use database_name;

Execution:-

Use mydatabase;

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Write about Structured Query Language (SQL)

SQL (Structured Query Language) is not a DBMS tool but a database language. It is a case insensitive language. It is also known as sequel.

It is a standard language for relational database.

SQL is a High-level declarative language (non-procedural) RDBMS uses it commercially.

SQL is the language of choice of folks such as in database

- Querying Data
- Inserting Data
- Updating Data
- Deleting Data

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What is the DDL Statements

DDL stands for Data Definition Language. DDL statements in SQL are used to define, modify and manage the structure and schema of a database. DDL statements allow you to create, alter and delete database objects.

Create table in SQL

Naming rules and convention

1) SQL is a case insensitive language
2) The tablename must be unique within the database you create it in.
3) The name also cannot be one of the SQL reserved words. (Ex: Select, Delete, etc)
4) You can use reserved words only if enclosed in double quotes.
5) The first character of an identifier name (table / column) should being with a letter between A to Z or a to z.
6) The remaining character can be letters or numeric digit or the symbol (_, $, #)

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Output:-

Query OK, 1 row affected.

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7) It is possible to have a identifier name that is only one character long, max 30 character long.

8) must not be a duplicate of the name of another object owned by the same user / schema / database.

Syntax:-

Create table < Table_name > (columnName, Datatype, (constraints);

Execution:-

Create table student (
sid number (2),
sname varchar (20),
s_address varchar (50)
);

To view the structure of the table

Syntax:-

desc tablename;

Output:-

Field	type	Null	Key	Default	Extra
Sid	int	Yes		Null	
S_name	varchar(20)	Yes		Null	
S_address	varchar(30)	Yes		Null	

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Execution:- desc student;

Output:- Query ok, 0 rows affected (0.21 sec)

Output:- Query ok, 0 rows affected (0.31 sec)

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Create Table Statement

Q1. Write SQL Statement to create the following table: table name: DEPT

DEPTNO	DNAME	LOC
numeric datatype with size 2	varchar datatype with size 15	varchar datatype with size 15

DEPTNO - PRIMARY KEY
DNAME - REQUIRED

Ans Create table DEPT (
DEPTNO numeric (2) PRIMARY KEY,
DNAME varchar (15) not null,
LOC varchar (15));

Q2. Create the following table EMP with constraint declaration.

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	Comm	DEPTNO
Numeric(4)	Varchar(10)	Varchar	Numeric	Date	Numeric	Numeric	Numeric(2)
Primary key	NOTNULL	(9)	(4)		(7,2)	(7,2)	FOREIGN KEY, REFERENCE DEPT

Create table EMP (
EMPNO numeric (4) PRIMARY KEY,
ENAME Varchar (10) NOTNULL,

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JOB varchar(9)
MGR numeric(4),
HIREDATE date,
SAL numeric(7,2),
COMM numeric(7,2),
DEPTNO numeric(2), FOREIGN KEY(DEPTNO) REFERENCES DEPT(DEPTNO) ON DELETE CASCADE);

Complete

Teacher's Signature :

Output:- Query OK, 0 rows affected (0.06 sec)

Output:- Query OK, 0 rows affected (0.07 sec)

Output:- Query OK, 0 rows affected (0.03 sec)

Output:- Query OK, 0 rows affected (0.02 sec)

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Write SQL statement to add a new column mobile number in dept table.

After table dept add mobile no numeric (10);

Write SQL statement to add a constraint on foreign key

After table emp add constraint dpfk FOREIGN KEY (deptno) references dept (deptno);

Write SQL statement to modifying a column JOB size to 12 in employee.

After table emp modify JOB varchar(12);

Write SQL statement to drop a foreign key constraint from emp table.

After table emp DROP CONSTRAINT dpFK;

Output:- Query ok, 0 rows affected (0.02 sec)

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Write SQL statement to rename empno to e_no in emp table

After table emp rename column empno to e_no;

Output

Teacher's Signature :

Output:- Query Ok, 0 rows affected (0.03 sec)

Output:- Query Ok, 0 rows affected (0.02 sec)

Output:- Query Ok, 0 rows affected (0.04 sec)

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Renaming Table

Write SQL Statement to rename the employee table to emp.

```
Rename table employees to emp;
```

Dropping a Table

Write a SQL statement to drop a table

```
Drop table examplee;
```

Truncating a Table

Write SQL statement to truncate a table.

```
Truncate table employee;
```

Comment on a table and Column

Write SQL statement to comment on a table.

Write SQL Statement to comment a column.

Teacher's Signature :

Output:-

Query ok, 1 row affected (0.01 sec)

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What is the data Manipulation Language (DML)?

Data Manipulation language statement allows you to query, edit, add and remove data stored in database objects.

The primary DML command, you can perform powerful action on the retrieval data stored in your system.

Insert query

Insert the appropriate data in the employee table. Write an SQL statement.

Insert table employee (empno, ename, Job, dob, salary, bonus, deptno) VALUES (100, 'RUCHI', 'MANAGER', '05-05-85', 10000, 500, 10);

Update query

Write the SQL statement for update the loc value: PUNE where deptno is 10, from department.

Teacher's Signature :

Output:- Query OK, 1 row affected (0.33 sec)

Output:- Query OK, 1 row affected (0.6 sec)

Output:-

ename	Job
RAHUL	SALESMAN
RUCHI	CLERK
PREETI	PRESIDENT
ASHISH	PRESIDENT
RUCHI	MANAGER
NEHAL	MANAGER

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Update department,
SET LOC = 'PUNE'
where deptno = 10;

Delete query

Write the SQL statement for deleting the data where loc is DELHI in department table.
Delete from, department
where loc, 'DELHI';

Select Statement

To query information from the database select database statement are used to retrieve data from SQL tables.
Semicolon (;) is the execution (or) termination point of the SQL statement)

Retrieve name of all the employees along with their Job.
Select ename, Job from employees;

Teacher's Signature :

Output:-

ename
RAHUL
RIYA
MITALI

Output:-

ename	salary
RAHUL	4000
RIYA	5000
MITALI	8000
ANJALI	4000
VINITA	6500
ASHISH	5500

Output

ename	salary	deptno
PREETI	8000	20
NEHAL	5500	20

Output:-

ename	salary	deptno.
PREETI	8000	20
RUCHI	6500	30
NEHAL	5500	20

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Relational Operation

Retrieves names of all employees who in department number.
Select ename from employee
where deptno =10;

Retrive names of all employees with their salary who are earning 4000 and more.
select ename, salary from employee. where
salary >= 4000;

Logical Operation

Retrieve names of all employees salary and their department number who are earning more than 5000 who work in department number 20.
Select ename, salary, deptno
from employee. where
salary > 5000 AND deptno =20;

Retrive name of all employees department number and their salary who are working in department number 20 or who are manager.

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Select ename, Salary, deptno
from employee where deptno = 20 OR job =
'MANAGER';

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Output:-

ename	Salary
RAHUL	4000
PREETI	6000
ASHISH	4000
RUCHI	6500

Output:-

ename	doJ
RAHUL	17-Dec-99
RUCHI	23-May-86
ASHISH	02-Sep-99
NEHAL	17-Jan-98

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Other Operations

like operation

Display all the employee name whose names start with 'R'.

```
Select ename from employees
where ename like 'R%';
```

NOT Operation

Display all the employee names and their salaries whose salaries are not in the range of 5000 and 6000.

```
Select ename, Salary from employee
where Salary NOT BETWEEN 5000 AND 6000;
```

Between operation

Display all the employee name and their date of joining who have joined between '17-Jan-98' AND '17-Dec-98'

```
Select ename , doj from employee where doj
Between '17-JAN-98' AND '17-Dec-99';
```

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Output:- SUM(salary)
33000

Output: MAX (bonus)
800

Output: MIN (bonus)
0

Output: AVG (bonus)
275

Output: COUNT (bonus)
4

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Group functions()

Retrive the total salary of all employees?

Select SUM(salary) from employee;

Retrive the maximum bonus?

Select MAX (bonus) from employee;

Retrive the minimum bonus?

Select MIN (bonus) from employee;

Retrive the average bonus?

Select AVG (bonus) from employee;

Retrive the count value of bonus?

Select COUNT (bonus) from employee;

Teacher's Signature :

Output:-

SUM (ename)	deptno
6900	30
13500	20
13000	10

Output:-

job	AVG (salary)
SALESMAN	4000
CLERK	5000
PRESIDENT	6000

Output:-

deptno	SUM(salary)
20	13500

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Group By

Retrive the total salary of all employees in each department.

```
Select deptno, SUM(salary) from department
ORDER BY deptno DESC;
```

Having Clause

Display the average salary of each job, excluding manager.

```
Select job, AVG(salary) from employee where
job != 'MANAGER' GROUP BY job
```

Display the total salary of each department where total salary is greater than 13000

```
Select deptno, SUM(salary) from employee GROUP BY
deptno HAVING SUM(salary)>13000;
```

Teacher's Signature :

Output:-

ename	bonus	NVL(bonus,0)+100
RAHUL	0	100
RUCHI	0	100
PREETI	Null	100
ASHISH	300	400
RUCHI	Null	100
NEHAL	600	900

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NVL() in Select Statement

Write SQL statement to display to increase the bonus with ₹ 100.

Select ename, bonus, NVL(Bonus,0) + 100 from employee

Output:-

ename	dname
RAHUL	ACCOUNTS
RUCHI	ACCOUNTS
PREETI	RESEARCH
ASHISH	ACCOUNTS
RUCHI	SALES
NEHAL	RESEARCH

Output :-

empno	ename
1003	PREETI
1006	NEHAL

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Joins

Retrive all employee names along with their department names

Select e.ename, d.dname from employee e, department d where e.deptno = d.deptno;

Retrive all employee numbers and their names who work in RESEARCH department

Select e.empno, e.ename from employee e, department d where e.deptno = d.deptno AND d.dname = 'RESEARCH';

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