Databases 2

Tuesday, 16 June 2020 9:39 AM

Sql Commands

ALTER TABLE:

ALTER TABLE lets you add columns to a table in a database.

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

INT
VARCHAR

AND

AND is an operator that combines two conditions. Both conditions must be true for the row to be included in the result set.

```
SELECT column_name(s) FROM table_name WHERE column_1 = value_1 AND column_2 = value_2;
```

```
Select gender from Person
```

AS

AS is a keyword in SQL that allows you to rename a column or table using an alias.

```
SELECT column_name AS 'Alias' FROM table_name;
```

Select colN FROM tableName As —

AVG()

AVG() is an aggregate function that returns the average value for a numeric column.

```
SELECT AVG(column_name) FROM table_name;
```

BETWEEN

The BETWEEN operator is used to filter the result set within a certain range. The values can be numbers, text or dates.

```
SELECT column_name(s) FROM table_name WHERE column_name BETWEEN value_1 AND value_2;
```

CASE

CASE statements are used to create different outputs (usually in the SELECT statement). It is SQL's way of handling if-then logic.

```
SELECT column_name,
  CASE
    WHEN condition1 THEN 'Result_1'
    WHEN condition2 THEN 'Result_2'
    ELSE 'Result_3'
  END
FROM table_name;
```

COUNT()

COUNT() is a function that takes the name of a column as an argument and counts the number of rows where the column is not NULL.

```
SELECT COUNT(column_name) FROM table_name;
```

CREATE TABLE

select SELECT

Select col1, col2 .... *
From table_name;

Select Distinct col1
From User;

Distinct
Select Country f

select col, ..
from tableName;
where condition;

country = "India"
userName = Saurabh
userId = 123;

>
<
>=
<=
<> not
'India'
BETWEEN
LIKE
IN

AND cond1 AND (Cond2 - - .
OR cond1 OR cond2
NOT If(! —) where NOT c

ORDER BY
sort the results in ASC | DESC
select ...
from
ORDER BY Age, UserName ;

Age ASC, userName DESC

Insert Into

Delete

MIN & MAX
Select MIN(colN.) MAX(
Fr
where
fr

CREATE TABLE creates a new table in the database. It allows you to specify the name of the table and the name of each column in the table.

```
CREATE TABLE table_name (
  column_1 datatype,
  column_2 datatype,
  column_3 datatype
);
```

DELETE

DELETE statements are used to remove rows from a table.

```
DELETE FROM table_name WHERE some_column = some_value;
```

GROUP BY

GROUP BY is a clause in SQL that is only used with aggregate functions. It is used in collaboration with the SELECT statement to arrange identical data into groups.

```
SELECT column_name, COUNT(*)
FROM table_name
GROUP BY column_name;
```

HAVING

HAVING was added to SQL because the WHERE keyword could not be used with aggregate functions.

```
SELECT column_name, COUNT(*)
FROM table_name
GROUP BY column_name
HAVING COUNT(*) > value;
```

INNER JOIN

An inner join will combine rows from different tables if the join condition is true.

```
SELECT column_name(s)
FROM table_1
JOIN table_2
ON table_1.column_name = table_2.column_name;
```

INSERT

INSERT statements are used to add a new row to a table.

```
INSERT INTO table_name (column_1, column_2, column_3) VALUES (value_1, 'value_2', value_3);
```

IS NULL / IS NOT NULL

IS NULL and IS NOT NULL are operators used with the WHERE clause to test for empty values.

```
SELECT column_name(s)
FROM table_name
WHERE column_name IS NULL;
```

LIKE

LIKE is a special operator used with the WHERE clause to search for a specific pattern in a column.

```
SELECT column_name(s) FROM table_name WHERE column_name LIKE pattern;
```

LIMIT

LIMIT is a clause that lets you specify the maximum number of rows the result set will have.

```
SELECT column_name(s) FROM table_name LIMIT number;
```

MAX()

MAX() is a function that takes the name of a column as an argument and returns the largest value in that column.

```
SELECT MAX(column_name) FROM table_name;
```

MIN()

MIN() is a function that takes the name of a column as an argument and returns the smallest value in that column.

```
SELECT MIN(column_name) FROM table_name;
```

OR

OR is an operator that filters the result set to only include rows where either condition is true.

```
SELECT column_name FROM table_name WHERE column_name = value_1 OR column_name = value_2;
```

ORDER BY

ORDER BY is a clause that indicates you want to sort the result set by a particular column either alphabetically or numerically.

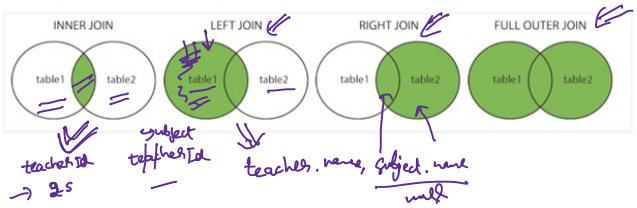
```
SELECT column_name FROM table_name ORDER BY column_name ASC | DESC;
```

OUTER JOIN

An outer join will combine rows from different tables even if the join condition is not met. Every row in the left table is returned in the result set, and if the join condition is not met, then NULL values are used to fill in the columns from the right table.

LEFT OUTER JOIN

```
SELECT column_name(s) FROM table_1
LEFT JOIN table_2
ON table_1.column_name = table_2.column_name;
```



ROUND()

ROUND() is a function that takes a column name and an integer as an argument. It rounds the values in the column to the number of decimal places specified by the integer.

```
SELECT ROUND(column_name, integer) FROM table_name;
```

SELECT

SELECT statements are used to fetch data from a database. Every query will begin with SELECT.

```
SELECT column_name FROM table_name;
```

SELECT DISTINCT

SELECT DISTINCT specifies that the statement is going to be a query that returns unique values in the specified column(s).

```
SELECT DISTINCT column_name FROM table_name;
```

SUM

SUM() is a function that takes the name of a column as an argument and returns the sum of all the values in that column.

```
SELECT SUM(column_name) FROM table_name;
```

UPDATE

UPDATE statements allow you to edit rows in a table.

```
UPDATE table_name SET some_column = some_value WHERE some_column = some_value;
UPDATE movies SET movie_title = "NewMovieTitle" WHERE movie_year = "1977"
```

WHERE

WHERE is a clause that indicates you want to filter the result set to include only rows where the following condition is true.

Select names from Person where gender = 'Female'

Retrieving data from Tables

1. SQL statement to display a string "This is SQL Exercise, Practice and Solution"
2. SQL query to display the result of an arithmetic expression
3. SQL query to display only name and commission from table salesman
4. SQL query to find the name and price of the cheapest item(s).

   Sample table: item_mast

PRO_ID	PRO_NAME	PRO_PRICE	PRO_COM
101	Mother Board	3200	15
102	Key Board	450	16
103	ZIP drive	250	14
104	Speaker	550	16
105	Monitor	5000	11
106	DVD drive	900	12
107	CD drive	800	12
108	Printer	2600	13
109	Refill cartridge	350	13
110	Mouse	250	12

5. SQL query to display the average price of the items for each company, showing only the company code.

   Sample table: item_mast

PRO_ID	PRO_NAME	PRO_PRICE	PRO_COM
101	Mother Board	3200	15
102	Key Board	450	16
103	ZIP drive	250	14
104	Speaker	550	16
105	Monitor	5000	11
106	DVD drive	900	12
107	CD drive	800	12
108	Printer	2600	13
109	Refill cartridge	350	13
110	Mouse	250	12

6. SQL query to display the name and price of all the items with a price is equal or more than Rs.250, and the list contain the larger price ascending order.

   Sample table: item_mast

7. SQL query to find the item name and price in Rs.

   Sample table: item_mast

8. SQL query to find all the details of 1970 winners by the ordered to subject and winner name; but the list contain the subject Economic
   Sample table: nobel_win

YEAR	SUBJECT	WINNER	COUNTRY	CATEGORY
1970	Physics	Hannes Alfven	Sweden	Scientist
1970	Physics	Louis Neel	France	Scientist
1970	Chemistry	Luis Federico Leloir	France	Scientist
1970	Physiology	Ulf von Euler	Sweden	Scientist
1970	Physiology	Bernard Katz	Germany	Scientist
1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
1970	Economics	Paul Samuelson	USA	Economist
1970	Physiology	Julius Axelrod	USA	Scientist
1971	Physics	Dennis Gabor	Hungary	Scientist
1971	Chemistry	Gerhard Herzberg	Germany	Scientist
1971	Peace	Willy Brandt	Germany	Chancellor
1971	Literature	Pablo Neruda	Chile	Linguist
1971	Economics	Simon Kuznets	Russia	Economist
1978	Peace	Anwar al-Sadat	Egypt	President
1978	Peace	Menachem Begin	Israel	Prime Minister
1987	Chemistry	Donald J. Cram	USA	Scientist
1987	Chemistry	Jean-Marie Lehn	France	Scientist
1987	Physiology	Susumu Tonegawa	Japan	Scientist
1994	Economics	Reinhard Selten	Germany	Economist
1994	Peace	Yitzhak Rabin	Israel	Prime Minister
1987	Physics	Johannes Georg Bednorz	Germany	Scientist
1987	Literature	Joseph Brodsky	Russia	Linguist
1987	Economics	Robert Solow	USA	Economist
1994	Literature	Kenzaburo Oe	Japan	Linguist

   Output

```
year subject winner country category
1970 Literature Aleksandr Solzhenitsyn Russia Linguist
1970 Physics Hannes Alfven Sweden Scientist
1970 Physics Louis Neel France Scientist
1970 Physiology Bernard Katz Germany Scientist
1970 Physiology Julius Axelrod USA Scientist
1970 Physiology Ulf von Euler Sweden Scientist
1970 Chemistry Luis Federico Leloir France Scientist
1970 Economics Paul Samuelson USA Economist
```

9. SQL to display all the data of employees that work in department 47 or department 63.

   Sample table : emp_details

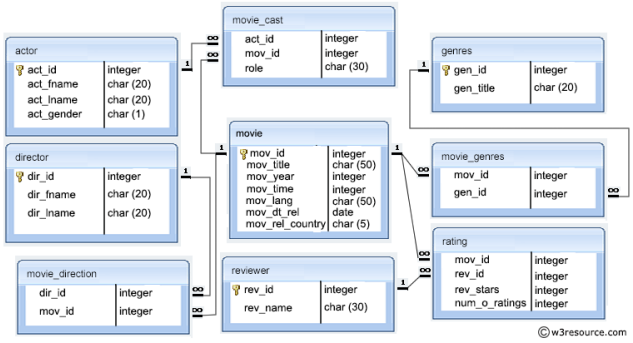
EMP_IDNO	EMP_FNAME	EMP_LNAME	EMP_DEPT
127323	Michale	Robbin	57
526689	Carlos	Snares	63
843795	Enric	Dosio	57
328717	Jhon	Snares	63
444527	Joseph	Dosni	47
659831	Zanifer	Emily	47
847674	Kuleswar	Sitaraman	57
748681	Henrey	Gabriel	47
555935	Alex	Manuel	57
539569	George	Mardy	27
733843	Mario	Saule	63
631548	Alan	Snappy	27
839139	Maria	Foster	57

10. SQL statement to exclude the rows which satisfy 1) order dates are 2012-08-17 and purchase amount is below 1000 2) customer id is
    purchase amount is below 1000.

    Sample table : orders

ord_no	purch_amt	ord_date	customer_id	salesman_id
70001	150.5	2012-10-05	3005	5002
70009	270.65	2012-09-10	3001	5005
70002	65.26	2012-10-05	3002	5001
70004	110.5	2012-08-17	3009	5003
70007	948.5	2012-09-10	3005	5002
70005	2400.6	2012-07-27	3007	5001
70008	5760	2012-09-10	3002	5001
70010	1983.43	2012-10-10	3004	5006
70003	2480.4	2012-10-10	3009	5003
70012	250.45	2012-06-27	3008	5002
70011	75.29	2012-08-17	3003	5007
70013	3045.6	2012-04-25	3002	5001

Movie Database



1. Write a query in SQL to list all the information of the actors who played a role in the movie 'Annie Hall'.
2. Write a query in SQL to find the name of the director (first and last names) who directed a movie that casted a role for 'Eyes Wide Sh