WHERE SALARY LIKE '200%' Finds any values that start with 200

WHERE SALARY LIKE '%200%' Finds any values that have 200 in any position

WHERE SALARY LIKE '\_00%' Finds any values that have 00 in the second and third positions

WHERE SALARY LIKE '2\_%\_%' Finds any values that start with 2 and are at least 3 characters in length

WHERE SALARY LIKE '%2' Finds any values that end with 2

WHERE SALARY LIKE '\_2%3' Finds any values that have a 2 in the second position and end with a 3

WHERE SALARY LIKE '2\_\_\_3' Finds any values in a five-digit number that start with 2 and end with 3

ALTER COMMANDS-

ALTER TABLE table\_name ADD column\_name datatype;

ALTER TABLE table\_name DROP COLUMN column\_name;

ALTER TABLE table\_name MODIFY COLUMN column\_name datatype;

ALTER TABLE table\_name MODIFY column\_name datatype NOT NULL;

alter table employee alter column Joining\_date date

alter table classics drop type

alter table classics rename to classy

Alter table PersonalDetails ADD Primary Key (AutoId)

Alter table PersonalDetails Add AutoId int NOT NULL IDENTITY (1, 1) Primary key

//multiple records at once

INSERT INTO MyDetails (FullName, City)

VALUES

('Ram', 'Mumbai') ,

('Shyam', 'Chennai') ,

('Mohan', 'Delhi')

USE SqlHowTo //select database

SELECT \* FROM PersonalDetails WHERE Age <> 30 //<> is same as !=

SELECT NEWID() //To get a random unique value in SQL Server, we use NEWID function.

to retrieve random records

SELECT TOP 2 \* FROM PersonalDetails ORDER BY NEWID()

//Knowing SQL Server version in SQL Server

SELECT @@SERVERNAME, @@VERSION

SELECT @@MAX\_CONNECTIONS

SELECT @@TEXTSIZE

SELECT FirstName + SPACE(1) + LastName FROM PersonalDetails //give space b/w two columns values

concatenating more than one function

SELECT CONCAT(

FirstName,

SPACE(1),

LastName,

SPACE(1),

Age,

space(2),

Active

)

FROm PersonalDetails

SELECT SYSDATETIME()

SELECT

DAY(GETDATE()) as Day,

MONTH(GETDATE()) as Month,

YEAR(GETDATE()) As Year

SELECT

DATENAME(WEEKDAY, GETDATE()) as DayName,

DATEPART(WEEKDAY, GETDATE()) as DayOfTheWeek,

DATENAME(MONTH, GETDATE()) As MonthName

check for valid date

SELECT

ISDATE('15/16/2015') InValidDate,

ISDATE(GETDATE()) ValidDate

To get the difference between two dates, we can use DATEDIFF function.

SELECT

DATEDIFF(YY, '01/24/1977', GETDATE()) AgeInYears,

DATEDIFF(MM, '01/24/1977', GETDATE()) AgeInMonths,

DATEDIFF(DD, '01/24/1977', GETDATE()) AgeInDays

-----------

To convert a column value from one data type to another, we use CONVERT function.

SELECT

Convert(varchar(20), GETDATE()) DefaultFormat,

Convert(varchar(20), GETDATE(), 101) DDMMYYYY,

Convert(varchar(20), GETDATE(), 102) YYYYMMDD,

Convert(varchar(20), GETDATE(), 103) DDMMYYYY,

Convert(varchar(20), GETDATE(), 104)

SELECT

Convert(varchar(20), GETDATE(), 105),

Convert(varchar(20), GETDATE(), 106),

Convert(varchar(20), GETDATE(), 107)

SELECT

Convert(varchar(20), GETDATE(), 108),

Convert(varchar(20), GETDATE(), 109),

Convert(varchar(20), GETDATE(), 110)

SELECT Convert(varchar(20), GETDATE(), 111),

Convert(varchar(20), GETDATE(), 112),

Convert(varchar(20), GETDATE(), 113),

Convert(varchar(20), GETDATE(), 114)

SELECT \* FROM PersonalDetails FOR XML RAW //To retrieve data in XML format from SQL Server database, we can use FOR XML <options> clause. raw/auto

select name from city where population>120000 and countrycode='usa'

select distinct city from station where STATION.ID%2=0

SELECT name, population FROM world WHERE name IN ('Brazil', 'Russia', 'India', 'China');

Exercise-

SQL Queries for Freshers

Table Name : Employee

1,

Employee\_id First\_name Last\_name Salary Joining\_date Department

1 John Abraham 1000000 01-JAN-13 12.00.00 AM Banking

2 Michael Clarke 800000 01-JAN-13 12.00.00 AM Insurance

3 Roy Thomas 700000 01-FEB-13 12.00.00 AM Banking

4 Tom Jose 600000 01-FEB-13 12.00.00 AM Insurance

5 Jerry Pinto 650000 01-FEB-13 12.00.00 AM Insurance

6 Philip Mathew 750000 01-JAN-13 12.00.00 AM Services

7 TestName1 123 650000 01-JAN-13 12.00.00 AM Services

8 TestName2 Lname% 600000 01-FEB-13 12.00.00 AM Insurance

Table Name : Incentives

Employee\_ref\_id Incentive\_date Incentive\_amount

1 01-FEB-13 5000

2 01-FEB-13 3000

3 01-FEB-13 4000

1 01-JAN-13 4500

2 01-JAN-13 3500

1.Get all employee details from the employee table

2. Get First\_Name,Last\_Name from employee table

3. Get First\_Name from employee table using alias name “Employee Name”

4. Get First\_Name from employee table in upper case

5. Get First\_Name from employee table in lower case

6. Get unique DEPARTMENT from employee table

7. Select first 3 characters of FIRST\_NAME from EMPLOYEE

8. Get position of 'o' in name 'John' from employee table

9. Get FIRST\_NAME from employee table after removing white spaces from right side

10. Get FIRST\_NAME from employee table after removing white spaces from left side

11. Get length of FIRST\_NAME from employee table

12. Get First\_Name from employee table after replacing 'o' with '$'

13. Get First\_Name and Last\_Name as single column from employee table separated by a '\_'

14. Get FIRST\_NAME ,Joining year,Joining Month and Joining Date from employee table

15. Get all employee details from the employee table order by First\_Name Ascending

16. Get all employee details from the employee table order by First\_Name descending

17. Get all employee details from the employee table order by First\_Name Ascending and Salary descending

18. Get employee details from employee table whose employee name is “John”

19. Get employee details from employee table whose employee name are “John” and “Roy”

20. Get employee details from employee table whose employee name are not “John” and “Roy”

21. Get employee details from employee table whose first name starts with 'J'

22. Get employee details from employee table whose first name contains 'o'

23. Get employee details from employee table whose first name ends with 'n'

24. Get employee details from employee table whose first name ends with 'n' and name contains 4 letters

25. Get employee details from employee table whose first name starts with 'J' and name contains 4 letters

26. Get employee details from employee table whose Salary greater than 600000

27. Get employee details from employee table whose Salary less than 800000

28. Get employee details from employee table whose Salary between 500000 and 800000

29. Get employee details from employee table whose name is 'John' and 'Michael'

30. Get employee details from employee table whose joining year is “2013”

31. Get employee details from employee table whose joining month is “January”

32. Get employee details from employee table who joined before January 1st 2013

33. Get employee details from employee table who joined after January 31st

35. Get Joining Date and Time from employee table

36. Get Joining Date,Time including milliseconds from employee table

37. Get difference between JOINING\_DATE and INCENTIVE\_DATE from employee and incentives table

38. Get database date

39. Get names of employees from employee table who has '%' in Last\_Name. Tip : Escape character for special characters in a query.

40. Get Last Name from employee table after replacing special character with white space

41. Get department,total salary with respect to a department from employee table.

42. Get department,total salary with respect to a department from employee table order by total salary descending

Select DEPARTMENT,sum(SALARY) Total\_Salary from employee group by DEPARTMENT order by Total\_Salary descending

43. Get department,no of employees in a department,total salary with respect to a department from employee table order by total salary descending

Select DEPARTMENT,count(FIRST\_NAME),sum(SALARY) Total\_Salary from employee group by DEPARTMENT order by Total\_Salary descending

44. Get department wise average salary from employee table order by salary ascending

select DEPARTMENT,avg(SALARY) AvgSalary from employee group by DEPARTMENT order by AvgSalary asc

45. Get department wise maximum salary from employee table order by salary ascending

select DEPARTMENT,max(SALARY) MaxSalary from employee group by DEPARTMENT order by MaxSalary asc

46.Get department wise minimum salary from employee table order by salary ascending

select DEPARTMENT,min(SALARY) MinSalary from employee group by DEPARTMENT order by MinSalary asc

47. Select no of employees joined with respect to year and month from employee table

select datepart (YYYY,JOINING\_DATE) Join\_Year,datepart (MM,JOINING\_DATE) Join\_Month,count(\*) Total\_Emp from employee group by datepart(YYYY,JOINING\_DATE), datepart(MM,JOINING\_DATE)

48.Select department,total salary with respect to a department from employee table where total salary greater than 800000 order by Total\_Salary descending

Select DEPARTMENT,sum(SALARY) Total\_Salary from employee group by DEPARTMENT having sum(SALARY) >800000 order by Total\_Salary desc

49. Select employee details from employee table if data exists in incentive table ?

select \* from EMPLOYEE where exists (select \* from INCENTIVES)

50.How to fetch data that are common in two query results ?

select \* from EMPLOYEE where EMPLOYEE\_ID INTERSECT select \* from EMPLOYEE where EMPLOYEE\_ID < 4

51. Get Employee ID's of those employees who didn't receive incentives without using sub query ?

select EMPLOYEE\_ID from EMPLOYEE

Except

select EMPLOYEE\_REF\_ID from INCENTIVES

Note : Learn Union, Union All , Intersect and Except

52. Select 20 % of salary from John , 10% of Salary for Roy and for other 15 % of salary from employee table

Use Switch Case in Sql

SELECT FIRST\_NAME, CASE FIRST\_NAME WHEN 'John' THEN SALARY \* .2 WHEN 'Roy' THEN SALARY \* .10 ELSE SALARY \* .15 END "Deduced\_Amount" FROM EMPLOYEE

53. Select Banking as 'Bank Dept', Insurance as 'Insurance Dept' and Services as 'Services Dept' from employee table

54. Delete employee data from employee table who got incentives in incentive table

55. Insert into employee table Last Name with " ' " (Single Quote - Special Character)

Tip - Use another single quote before special character

Insert into employee (LAST\_NAME) values ('Test''')

56.Select Last Name from employee table which contain only numbers

Select \* from EMPLOYEE where lower(LAST\_NAME)=upper(LAST\_NAME)

57. Write a query to rank employees based on their incentives for a month

select FIRST\_NAME,INCENTIVE\_AMOUNT,DENSE\_RANK() OVER (PARTITION BY INCENTIVE\_DATE ORDER BY INCENTIVE\_AMOUNT DESC) AS Rank from EMPLOYEE a, INCENTIVES b where a.EMPLOYEE\_ID=b.EMPLOYEE\_REF\_ID

58. Update incentive table where employee name is 'John'

59. Select first\_name, incentive amount from employee and incentives table for those employees who have incentives

Select FIRST\_NAME,INCENTIVE\_AMOUNT from employee a inner join incentives B on A.EMPLOYEE\_ID=B.EMPLOYEE\_REF\_ID

60. Select first\_name, incentive amount from employee and incentives table for those employees who have incentives and incentive amount greater than 3000

Select FIRST\_NAME,INCENTIVE\_AMOUNT from employee a inner join incentives B on A.EMPLOYEE\_ID=B.EMPLOYEE\_REF\_ID and INCENTIVE\_AMOUNT >3000

61. Select first\_name, incentive amount from employee and incentives table for all employes even if they didn't get incentives

Select FIRST\_NAME,INCENTIVE\_AMOUNT from employee a left join incentives B on A.EMPLOYEE\_ID=B.EMPLOYEE\_REF\_ID

62. Select first\_name, incentive amount from employee and incentives table for all employees even if they didn't get incentives and set incentive amount as 0 for those employees who didn't get incentives.

Select FIRST\_NAME, ISNULL(INCENTIVE\_AMOUNT,0) from employee a left join incentives B on A.EMPLOYEE\_ID=B.EMPLOYEE\_REF\_ID

63. Select first\_name, incentive amount from employee and incentives table for all employees who got incentives using left join

Select FIRST\_NAME, isnull(INCENTIVE\_AMOUNT,0) from employee a right join incentives B on A.EMPLOYEE\_ID=B.EMPLOYEE\_REF\_ID

64. Select max incentive with respect to employee from employee and incentives table using sub query

select DEPARTMENT,(select ISNULL(max(INCENTIVE\_AMOUNT),0) from INCENTIVES where EMPLOYEE\_REF\_ID=EMPLOYEE\_ID) Max\_incentive from EMPLOYEE

65. Select TOP 2 salary from employee table

66. Select TOP N salary from employee table

select top N \* from employee

67. Select 2nd Highest salary from employee table

select min(SALARY) from (select top 2 \* from employee) a

68. Select Nth Highest salary from employee table

select min(SALARY) from (select top N \* from employee) a

69. Select First\_Name,LAST\_NAME from employee table as separate rows

select FIRST\_NAME from EMPLOYEE union select LAST\_NAME from EMPLOYEE

70. What is the difference between UNION and UNION ALL ?

Both UNION and UNION ALL is used to select information from structurally similar tables. That means corresponding columns specified in the union should have same data type. For example, in the above query, if FIRST\_NAME is DOUBLE and LAST\_NAME is STRING above query wont work. Since the data type of both the columns are VARCHAR, union is made possible. Difference between UNION and UNION ALL is that , UNION query return only distinct values.

71. Write create table syntax for employee table

-CREATE TABLE EMPLOYEE(

EMPLOYEE\_ID int NOT NULL,

FIRST\_NAME varchar(50) NULL,

LAST\_NAME varchar(50) NULL,

SALARY decimal(18, 0) NULL,

JOINING\_DATE datetime2(7) default getdate(),

DEPARTMENT varchar(50) NULL)

72. Write syntax to delete table employee

DROP table employee;

73. Write syntax to set EMPLOYEE\_ID as primary key in employee table

ALTER TABLE EMPLOYEE add CONSTRAINT EMPLOYEE\_PK PRIMARY KEY(EMPLOYEE\_ID)

74. Write syntax to set 2 fields(EMPLOYEE\_ID,FIRST\_NAME) as primary key in employee table

ALTER TABLE EMPLOYEE add CONSTRAINT EMPLOYEE\_PK PRIMARY KEY(EMPLOYEE\_ID,FIRST\_NAME)

75. Write syntax to drop primary key on employee table

Alter TABLE EMPLOYEE drop CONSTRAINT EMPLOYEE\_PK;

76. Write Sql Syntax to create EMPLOYEE\_REF\_ID in INCENTIVES table as foreign key with respect to EMPLOYEE\_ID in employee table

ALTER TABLE INCENTIVES ADD CONSTRAINT INCENTIVES\_FK FOREIGN KEY (EMPLOYEE\_REF\_ID) REFERENCES EMPLOYEE(EMPLOYEE\_ID)

77. Write SQL to drop foreign key on employee table

ALTER TABLE INCENTIVES drop CONSTRAINT INCENTIVES\_FK;

78. What is SQL Injection ?

SQL Injection is one of the the techniques uses by hackers to hack a website by injecting SQL commands in data fields.

-----------------------------------------------------------Other Querrie

1. SQL Query to find second highest salary of Employee

select MAX(Salary) from Employee WHERE Salary NOT IN (select MAX(Salary) from Employee

SELECT max(salary) FROM Employee WHERE salary < (SELECT max(salary) FROM Employee);

SELECT TOP 1 salary FROM ( SELECT TOP 2 salary FROM employees ORDER BY salary DESC) AS emp ORDER BY salary ASC

2. SQL Query to find Max Salary from each department.

SELECT DeptID, MAX(Salary) FROM Employee GROUP BY DeptID.

Solutions-

create database ibm

create table employee(Employee\_id int,First\_name varchar(30),Last\_name varchar(40),Salary int,Joining\_date datetime,Department varchar(50))

select \* from employee

create table Incentives(Employee\_ref\_id int,Incentive\_date date,Incentive\_amount int)

select \* from Incentives

insert into employee values(1,'John','Abraham',1000000,'01-01-2013 12:00:00 AM','Banking')

insert into employee values(2,'Michael','Clarke',800000,'01-01-2013 12:00:00 AM','Insurance')

insert into employee values(3,'Roy','Thomas',700000,'02-01-2013 12:00:00 AM','Banking')

insert into employee values(4,'Tom','Jose',600000,'02-01-2013 12:00:00 AM','Insurance')

insert into employee values(5,'Jerry','Pinto',650000,'02-01-2013 12:00:00 AM','Insurance')

insert into employee values(6,'Philip','Mathew',750000,'01-01-2013 12:00:00 AM','Services')

insert into employee values(7,'TestName1','123',650000,'01-01-2013 12:00:00 AM','Services')

insert into employee values(8,'TestName2','Lname%',600000,'02-01-2013 12:00:00 AM','Insurance')

DELETE FROM employee WHERE First\_name = 'TestName2'

insert into Incentives values(1,'02-01-2013',5000)

insert into Incentives values(2,'02-01-2013',3000)

insert into Incentives values(3,'02-01-2013',4000)

insert into Incentives values(1,'01-01-2013',4500)

insert into Incentives values(2,'01-01-2013',3500)

select First\_Name,Last\_Name from employee

select First\_name as "Employee Name" from employee

select UPPER(First\_name) AS first\_name from employee

select Lower(First\_name) AS first\_name from employee

select distinct department from employee

7)select LEFT(First\_name,3) from employee or

select substring(1,3) from employee

8)select CHARINDEX('o','john') from employee

9)select RTRIM(FIRST\_NAME) from employee

10)select LTRIM(FIRST\_NAME) from employee

11)select len(First\_name) from employee

12)select REPLACE(First\_name,'o','$') from employee

13)select First\_name + '\_'+ Last\_name from employee

by using concat-

14)select First\_name ,(Year(Joining\_date)),(Month(Joining\_date)),Joining\_date from employee

year(doj),month(doj),day(doj)

datepart(yy,doj),datepart(mm,doj)--o/p 2014

datename(yy,doj),datename(mm,doj)--o/p april

15)select \* from employee order by First\_name asc

16)select \* from employee order by First\_name desc

17)select \* from employee order by First\_name asc,salary desc

18)select \* from employee where First\_name='john'

19)select \* from employee where First\_name in ('John','roy')

20)select \* from employee where First\_name not in ('John','roy')

or select \* from employee where First\_name!='john' and First\_name!='roy'

21)select \* from employee where First\_name like 'j%'

wildcards-

In like are %-any no. of characters (0 or more)e.g--'%a' ---manisha,rohan,a,abca

'a%'-----

'%a%'----any place

'%ab%'---together ab

\_

e.g'\_a'---ba,ca,da

'\_\_a'-----

'\_a%'------

'%a\_'----second last a

[]

like '[ahl]' or like 'a%' or like 'h%' or name like 'l%'

[^]

[^ah]---not starting with a or h

22)select \* from employee where First\_name like '%o%'

23)select \* from employee where First\_name like '%n'

24)select \* from employee where First\_name like '%n' And len(First\_name)=4

or

select \* from employee where First\_name like '\_\_\_n'

25)select \* from employee where First\_name like 'j\_\_\_'

select \* from employee where Salary>600000

select \* from employee where Salary<800000

select \* from employee where Salary>=600000 and salary<=800000

Select \* from EMPLOYEE where Salary between 500000 and 800000

Select \* from EMPLOYEE where FIRST\_NAME in ('John','Michael')

select \* from employee where(YEAR(Joining\_date) = 2013)

select \* from employee where( MONTH(Joining\_date)= 01 )

Select \* from EMPLOYEE where joining\_date < '01/01/2013'

Select \* from EMPLOYEE where joining\_date > '01/31/2013'

select Joining\_date from employee

select getdate()

select Last\_name from employee where Last\_name like '%[%]%'

select Replace(Last\_name,'%',' ') from employee

create database ibm

create table employee(Employee\_id int,First\_name varchar(30),Last\_name varchar(40),Salary int,Joining\_date datetime,Department varchar(50))

select \* from employee

create table Incentives(Employee\_ref\_id int,Incentive\_date date,Incentive\_amount int)

select \* from Incentives

alter table employee alter column Joining\_date date

insert into employee values(1,'John','Abraham',1000000,'01-01-2013 12:00:00 AM','Banking')

insert into employee values(2,'Michael','Clarke',800000,'01-01-2013 12:00:00 AM','Insurance')

insert into employee values(3,'Roy','Thomas',700000,'02-01-2013 12:00:00 AM','Banking')

insert into employee values(4,'Tom','Jose',600000,'02-01-2013 12:00:00 AM','Insurance')

insert into employee values(5,'Jerry','Pinto',650000,'02-01-2013 12:00:00 AM','Insurance')

insert into employee values(6,'Philip','Mathew',750000,'01-01-2013 12:00:00 AM','Services')

insert into employee values(7,'TestName1','123',650000,'01-01-2013 12:00:00 AM','Services')

insert into employee values(8,'TestName2','Lname%',600000,'02-01-2013 12:00:00 AM','Insurance')

DELETE FROM employee WHERE First\_name = 'TestName2'

insert into Incentives values(1,'02-01-2013',5000)

insert into Incentives values(2,'02-01-2013',3000)

insert into Incentives values(3,'02-01-2013',4000)

insert into Incentives values(1,'01-01-2013',4500)

insert into Incentives values(2,'01-01-2013',3500)

select First\_Name,Last\_Name from employee

select First\_name as "Employee Name" from employee

select UPPER(First\_name) AS first\_name from employee

select Lower(First\_name) AS first\_name from employee

select distinct department from employee

select LEFT(First\_name,3) from employee

select CHARINDEX('o','john') from employee

select len(First\_name) from employee

select RTRIM(FIRST\_NAME) from employee

select LTRIM(FIRST\_NAME) from employee

select REPLACE(First\_name,'o','$') from employee

select First\_name + '\_'+ Last\_name from employee

select First\_name ,(Year(Joining\_date)),(Month(Joining\_date)),Joining\_date from employee

select \* from employee order by First\_name asc

select \* from employee order by First\_name desc

select \* from employee order by First\_name asc,salary desc

select \* from employee where First\_name in ('John','roy')

select \* from employee where First\_name not in ('John','roy')

select \* from employee where First\_name like 'j%'

select \* from employee where First\_name like '%o%'

select \* from employee where First\_name like '%n'

select \* from employee where First\_name like '%n' And len(First\_name)=4

select \* from employee where First\_name like '\_\_\_n'

select \* from employee where First\_name like 'j\_\_\_'

select \* from employee where Salary>600000

select \* from employee where Salary<800000

select \* from employee where Salary>=600000 and salary<=800000

Select \* from EMPLOYEE where Salary between 500000 and 800000

Select \* from EMPLOYEE where FIRST\_NAME in ('John','Michael')

select \* from employee where(YEAR(Joining\_date) = 2013)

select \* from employee where( MONTH(Joining\_date)= 01 )

Select \* from EMPLOYEE where joining\_date < '01/01/2013'

Select \* from EMPLOYEE where joining\_date > '01/31/2013'

select Joining\_date from employee

select getdate()

select Last\_name from employee where Last\_name like '%[%]%'

select Replace(Last\_name,'%',' ') from employee

select Incentive\_date - Joining\_date from employee a inner join Incentives b on a.Employee\_id=b.Employee\_ref\_id

select department,sum(salary) from employee group by Department

select \* from employee where First\_name!='john' and First\_name!='roy'

SELECT create\_date FROM sys.databases WHERE name = 'ibm'

Select DEPARTMENT,sum(SALARY) Total\_Salary from employee group by DEPARTMENT order by Total\_Salary desc

Select DEPARTMENT,count(FIRST\_NAME),sum(SALARY) Total\_Salary from employee group by DEPARTMENT order by Total\_Salary desc

select DEPARTMENT,avg(SALARY) AvgSalary from employee group by DEPARTMENT order by AvgSalary asc

select DEPARTMENT,max(SALARY) MaxSalary from employee group by DEPARTMENT order by MaxSalary asc

select DEPARTMENT,min(SALARY) MinSalary from employee group by DEPARTMENT order by MinSalary asc

select datepart (YYYY,JOINING\_DATE) Join\_Year,datepart (MM,JOINING\_DATE) Join\_Month,count(\*) Total\_Emp from employee group by datepart(YYYY,JOINING\_DATE), datepart(MM,JOINING\_DATE)

Select DEPARTMENT,sum(SALARY) Total\_Salary from employee group by DEPARTMENT having sum(SALARY) >800000 order by Total\_Salary desc

select \* from EMPLOYEE where exists (select \* from INCENTIVES)

select \* from EMPLOYEE where Employee\_id INTERSECT select \* from EMPLOYEE where EMPLOYEE\_ID < 4

select EMPLOYEE\_ID from EMPLOYEE Except select EMPLOYEE\_REF\_ID from INCENTIVES

SELECT FIRST\_NAME, CASE FIRST\_NAME WHEN 'John' THEN SALARY \* .2 WHEN 'Roy' THEN SALARY \* .10 ELSE SALARY \* .15 END "Deduced\_Amount" FROM EMPLOYEE

SELECT case DEPARTMENT when 'Banking' then 'Bank Dept' when 'Insurance' then 'Insurance Dept' when 'Services' then 'Services Dept' end FROM EMPLOYEE

delete from employee where employee\_id in (select Employee\_ref\_id from Incentives)

Insert into employee (LAST\_NAME) values ('Test''')

select Last\_name from employee where Last\_name like '%[0123456789]%'

Select \* from EMPLOYEE where lower(LAST\_NAME)=upper(LAST\_NAME)

update Incentives set Incentive\_amount='9000' where Employee\_ref\_id=(select Employee\_id from employee where First\_name='John' )

CREATE TABLE EMPLOYE(

EMPLOYEE\_ID int NOT NULL,

FIRST\_NAME varchar(50) NULL,

LAST\_NAME varchar(50) NULL,

SALARY decimal(18, 0) NULL,

JOINING\_DATE datetime2(7) default getdate(),

DEPARTMENT varchar(50) NULL)

ALTER TABLE EMPLOYE add CONSTRAINT EMPLOYEE\_PK PRIMARY KEY(EMPLOYEE\_ID)

select \* from EMPLOYE

ALTER TABLE EMPLOYE add CONSTRAINT EMPLOYEE\_PK PRIMARY KEY(EMPLOYEE\_ID,FIRST\_NAME)

Alter TABLE EMPLOYE drop CONSTRAINT EMPLOYEE\_PK;

select min(SALARY) from (select top 2 \* from employee) a

select FIRST\_NAME from EMPLOYEE union select LAST\_NAME from EMPLOYEE

create database synapse //first step

create table employee(eid int,name varchar(20),mobile varchar(10),city varchar(20),department varchar(20) , salary int)

select \* from employee

insert into employee values(1,'deepak','9874561234','Delhi','php',15000)

insert into employee values(22,'ajay','9874564534','Noida','asp',16000)

insert into employee values(33,'sunil','9874545234','Agra','android',25000)

insert into employee values(44,'ashish','9874561234','chandigarh','windows',28000)

insert into employee values(65,'deepkia','9878561234','kolkatta','linux',17000)

insert into employee values(16,'namrata','9823561234','aligarh','C',13000)

insert into employee values(23,'sanjay','9878961234','hathras','c++',17000)

insert into employee values(67,'nishant','9890561234','kochi','unix',20000)

insert into employee values(78,'shikhar','9809561234','jalhandar','solaris',28000)

insert into employee values(101,'nitin','9874561234','Mathura','phonegap',18000)

insert into employee values(98,'harendra',null,'jalhandar','solaris',88000)

select \* from employee

select eid , name from employee

select eid , name from employee where eid=65

delete employee

drop table employee

select eid , name , salary as 'Old Salary','New salary '= (1.1) \* salary from employee

select \* from employee where name like 'a%' or name like 'd%' or name like 's%'

select \* from employee where name like '[ads]%'

select \* from employee where name like '[^ads]%'

select \* from employee where name like '%[lkt]'

select \* from employee where name like '[ads]%[lkt]'

select \* from employee where name like '[ads]%k'

select \* from employee where mobile is null

select \* from employee where mobile is not null

displaying details in order

select \* from employee order by eid asc

select \* from employee order by eid

select \* from employee order by eid desc

retreiving the top details ....

select \* from employee

select top 3 \* from employee

select top 3 eid ,name from employee

select top 3 \* from employee order by salary desc

select top 3 \* from employee order by salary

SELECT \* FROM CUSTOMERS LIMIT 3;

SELECT \* FROM CUSTOMERS WHERE ROWNUM <= 3;

**retreiving distinct values**

select city from employee

select distinct city from employee

------------------------------String functions --------------------------

--Are used to manipulate varchar or char type columns in the table

select ASCII('c') as 'ASCII VAlue'

select CHAR(97) as 'Character Value'

select CHARINDEX('e','hello')

select CHARINDEX('a',name) from employee

select name from employee where CHARINDEX('a',name) = 5

select LEFT(name,3) from employee

select name from employee where LEFT(name,3) = 'dee'

select right(name,3) from employee

select name from employee where right(name,1) = 'a'

**equlvialent like query**

select name from employee where name like '%a'

select LEN(name) from employee

select name from employee where LEN(name) >4

select UPPER(name) from employee

select lower(name) from employee

select \* from employee

select REPLACE(name,'ee','i') from employee

select name , REVERSE(name) as 'Reverse name ' from employee

select name from employee where name = REVERSE(name)

select stuff('weather',2,2,'i')

select name ,STUFF(name,2,3,'\*\*\*') from employee

select name , SUBSTRING(name,2,3) from employee

select name , SUBSTRING(name,1,3) from employee -- same as left working

select name , SUBSTRING(name , len(name)-2,3) from employee --same as right working

select \* from employee

select name + ' lives in ' + city from employee

select eid + 'is : '+ name from employee--- error due to conversions

select CONVERT(char(3),eid) + 'is : ' + name from employee

-------Date Functions ----------------------------

functions are used to manipulate the datatime coulmns values

select GETDATE()

to change the format of date we will use convert functions

select CONVERT(varchar(20),getdate(),1)

select CONVERT(varchar(20),getdate(),2)

select CONVERT(varchar(20),getdate(),3)--indian date

select CONVERT(varchar(20),getdate(),4)--indian date

select CONVERT(varchar(20),getdate(),5)--indian date

select CONVERT(varchar(20),getdate(),6)

select CONVERT(varchar(20),getdate(),7)

select CONVERT(varchar(20),getdate(),8)

select CONVERT(varchar(20),getdate(),9)--time

select CONVERT(varchar(20),getdate(),10)

To get name of a particular date, we can use DATENAME function in Sql Server.

To get integer part of a particular date, we can use DATEPART function in Sql Server.

select DAY(getdate())

select DATEPART(dd,getdate())

select DATENAME(dd,getdate())

select MONTH(getdate())

select DATEPART(mm,getdate())

select DATENAME(mm,getdate())

select YEAR(getdate())

select DATEPART(yy,getdate())

select DATENAME(yy,getdate())

select DATEPART(dw,getdate())

select DATENAME(dw,getdate())

select DATEPART(qq,getdate())

select DATEPART(dy,getdate())

select DATEPART(wk,getdate())

select DATEPART(hh,getdate())

select DATEPART(mi,getdate())

select DATEPART(ss,getdate())

select DATEADD(dd,5,getdate())

select DATEADD(mm,5,getdate())

select DATEADD(yy,5,getdate())

select DATEADD(dd,5,getdate()),DATEADD(mm,5,getdate()),DATEADD(yy,5,getdate())

create table emp (id int , name varchar(20) , dob datetime)

insert into emp values (1,'abhay','03/21/1992')

select DATEDIFF(YY,dob,GETDATE()) from emp

select DATENAME(dw,dob) from emp

-------------Mathematical Functions ------------------------------

select ABS(23)

select ABS(-23)

select CEILING(8.3)

select Floor(8.3)

select ROUND(34.568,2)

select ROUND(34.568,1)

select ROUND(34.568,0)

select ROUND(34.568,-1) ---30.00

select ROUND(37.568,-1) --- 40.00

select ROUND(34.568,-2)--0.000

select PI()

select round(PI(),2)

select LOG(100)

select LOG10(100)

select POWER(4,3)

select RAND()

select floor(RAND()\*10)

select floor(RAND()\*100)

select SQRT(64)

select SQRT(63)

select SIGN(-33)

select SIGN(34)

select SIGN(0)

--- will return conutries whose temperature is less than 0.

select countryname from world where SIGN(countrytemperature) = -1

------------------------Aggregate Functions ---------------------------

---- Max(), Min() , Sum() , Avg() , Count()

select \* from employee

select SUM(salary) from employee

select Avg(salary) from employee

select MAx(salary) from employee

select min(salary) from employee

select count(salary) from employee

select COUNT(city) from employee

select COUNT(distinct city) from employee

create table empextra (eid int , hobby varchar(20) , interest varchar(20) )

insert into empextra values(100,'reading books','cooking')

insert into empextra values(65,'playing games','playing')

insert into empextra values(101,'reading comics','outing')

insert into empextra values(99,'reading news','chatting')

select \* from empextra

select ec.eid ,

ename,

department,

designation,

doj,

mobile,

city,

dob,

hobby,

interest

from empcompany ec , empdetails ed , empextra ee where ec.eid=ed.eid and ed.eid = ee.eid

-----------------------------Outer Join -------------------------------------

---- Left Outer Join ----------------

create table A(eid int, ename varchar(20) , edepartment varchar(20))

insert into A values(1,'deepak','IT')

insert into A values(2,'ajay','Sales')

insert into A values(3,'sanjay','Bussines')

create table B(eid int , ecity varchar(20), emobile varchar(10))

insert into B values(1,'Agra','989747847')

insert into B values(2,'Delhi','987457474')

insert into B values(4,'Noida','98745747')

select \* from A

select \* from B

select A.eid , ename , edepartment , ecity , emobile from A left outer join B on A.eid = B.eid

select B.eid , ename , edepartment , ecity , emobile from A right outer join B on A.eid = B.eid

select A.eid , ename , edepartment , ecity , emobile from A full outer join B on A.eid = B.eid

---------------------------------------------------------self join----------------

eid name managerid

1 mike

2 todd

3

4

5

----------------------------------Group by -----------------------------------------

select \* from employee

select \* into empd from employee where eid <= 65

select \* from empd

update empd

set department='asp' where eid=44 OR eid=16

update empd

set department='php' where eid=33 OR eid=65 or eid=23

select department , SUM(salary) as 'Total salary' from empd group by department

select department , SUM(salary) as 'Total salary' from empd group by department having sum(salary)>58000

-----------------------------------Subqueries ---------------------------------

select \* from employee

select \* from A

select \* from B

select \* from employee where city in ('agra','delhi','noida')

select \* from employee where city in ( select ecity from B )

select \* from employee where city in ( select ecity from B where emobile='989747847')

select \* from employee where city = (select ecity from B where emobile='989747847')

select \* from employee where exists ( select ecity from B where emobile='98974784712')

select \* from employee where exists ( select ecity from B where emobile='989747847')

---------------------------------------Constraints-----------------------------------------

/\*

Implementing Data Integrity:

A.Entity Integrity --

B.Domain Integrity --

C.Referential integrity --

D.User defined integrity : by set of rules.

can maintain integrity by below ways :

A.Applying constraints with Enabling and disabling constraints.

B.Applying rules

C.User defined data types

Constraints :

A.Primary Keys Constraint

B.Unique Keys ''

C.Foreign Keys ''

D.Check Constraint

E.Default Constraint

\*/

create table employeedetails

(

eid int primary key ,

ename varchar(20) not null default 'Admin',

emobile varchar(10) unique,

ecity varchar(20) check ( ecity in ('Agra','Noida','Delhi')) default 'Agra' ,

eage int check ( eage between 20 and 25),

egender char(1) check (egender in ('F','M'))

)

insert into employeedetails values(101,'deepak','987414784','Agra',23,'M')

insert into employeedetails values(102,'deepak','987414785','Agra',23,'M')

insert into employeedetails values(103,'deepak','987414781','Delhi',24,'M')

insert into employeedetails values(104,default,'987414782',default,24,'M')

select \* from employeedetails

insert into employeedetails(eid,emobile,eage,egender) values (105,'87471477',24,'F')

-------------------------------------------Identity columns---------------------------------

create table employee1

(

id int identity(100,1) primary key ,

ename varchar(20) not null,

department varchar(30) not null,

doj datetime not null

)

-- adding columns by using alter table

alter table employee1

add designation varchar(20) not null

drop table employee1

create table employee1

(

id int identity(100,1) primary key ,

ename varchar(20) not null,

department varchar(30) not null,

designation varchar(20) not null,

doj datetime not null

)

insert into employee1 values('Deepak Singh','IT','Software Enginner','09/03/2014')

insert into employee1 values('Abhay Singh','SALES','Sales Manager','02/08/2014')

select \* from employee1