SQL queries example-

Select count(\*) as TablesCount from sys.tables

select count(\*) as ProceduresCount from sys.procedures

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)

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 Employees WHERE EmpName like 'A%'

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** – These 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 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 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 - These are used to manipulate the datatime coulmns values

Date parts - Parameter Value Description

yy,yyyy - year 2015

qq,q – quarter 2

mm,m – month name- May

dy-- day of year - 139

day -- dd,d - 19 Day of the month

week – wk - 21 Week of the year

weekday – Dw - Tuesday Day name of the week

hour – hh -12 Hour of the date time passed

minute -- mi

second -- ss

millisecond -- ms

n 59 Minute of the date time passed

select GETDATE()

There is a built-in function in SQL called GetDate() which is used to return current timestamp.

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

Joins

why do we need joins ??

A.Inner Joins(Equi join)-only matching rows retrieved no null rows retrieved here

B.Outer Joins

i.Left Outer Join-it includs null considr the first or left table

ii.Right Outer Join-consider right table and compare t totally

iii. Full outer

C.Cross Joins-no on clause and prints cartesisan product table records 10\*4=40 record

D.Self Joins-join table itself

E.Equi Joins

Inner Joins

create table EmpCompany(eid int,ename varchar(20),department varchar(20) , designation varchar(20) , doj datetime)

drop table EmpCompany

insert into EmpCompany values(101,'Amit','IT','Software Engineer','03/24/2001')

insert into EmpCompany values(99,'Sumit','Sales','Sales Executive','01/18/2002')

insert into EmpCompany values(109,'Ajay','IT','Software Executive','01/4/2003')

insert into EmpCompany values(200,'Anant','IT','Project Manager','02/17/2004')

insert into EmpCompany values(100,'Amir','Sales','Sales Manager','03/29/2002')

insert into EmpCompany values(65,'Anshul','IT','Platmorm MAnager','04/21/2005')

insert into EmpCompany values(111,'Deepak','Bussines','Bussiness Develop','04/21/2002')

select \* from empcompany

select \* from empdetails

select ename from empcompany

create table empdetails (eid int,mobile varchar(20),city varchar(20),dob datetime)

insert into empdetails values (99,'98745712474','Delhi','01/15/1985')

insert into empdetails values (101,'98745712474','Noida','01/15/1983')

insert into empdetails values (109,'98745712474','Kolkatta','01/15/1990')

insert into empdetails values (200,'98745712474','Chandigarh','01/15/1982')

insert into empdetails values (100,'98745712474','Lucknow','01/15/1988')

insert into empdetails values (65,'98745712474','Mumbai','01/15/1985')

select \* from empcompany

select \* from empdetails

first way

select empdetails.eid , ename, department, designation, doj, mobile, city, dob from empcompany inner join empdetails on empcompany.eid=empdetails.eid

second way

select ec.eid , ename, department, designation, doj, mobile, city, dob from empcompany ec join empdetails ed on ec.eid=ed.eid

third way

select ec.eid , ename, department, designation, doj, mobile, city, dob from empcompany ec , empdetails ed where ec.eid=ed.eid

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')

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')

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)

**multiple records at once**

INSERT INTO MyDetails (FullName, City)

VALUES

('Ram', 'Mumbai') ,

('Shyam', 'Chennai') ,

('Mohan', 'Delhi')

select database-

USE SqlHowTo

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 the 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');