use employee

select \* from emp

--constraints

-- Entity Integrity : Primary Key

select \* from emp where dept = 'HR' OR dept='Accts' OR dept = 'Sales'

select \* from emp where dept IN('Sales','HR','Accts')

drop table employee

create table employee (id int primary key,

name varchar(20) not null,

address varchar(20),

salary int check(salary between 10000 and 20000) , --domain integrity rule

dept varchar(20) check (dept in ('HR', 'Accts', 'Sales')),

manager varchar(20) unique,

age int default 20)

insert into employee(id,name,address,salary,dept,manager) values(5,'Ajay','Delhi', 12000,'HR','Deepak')

select \* From employee

insert into employee(id,name,address,salary,dept,manager) values(4,'Ajay','Delhi', 18000,'HR','Sagar1'),

(5,'Ajay','Delhi', 12000,'HR','Deepak2')

use employee

select \* from emp

--constraints

-- Entity Integrity : Primary Key

select \* from emp where dept = 'HR' OR dept='Accts' OR dept = 'Sales'

select \* from emp where dept IN('Sales','HR','Accts')

drop table employee

create table employee (id int constraint pk primary key,

name varchar(20) constraint notnull not null,

address varchar(20),

salary int constraint salarycheck check(salary between 10000 and 20000) , --domain integrity rule

dept varchar(20) constraint deptcheck check (dept in ('HR', 'Accts', 'Sales')),

manager varchar(20) unique,

age int default 20)

-- drop the constraint

alter table employee drop constraint salarycheck

-- alter table employee disable constraint

insert into employee(id,name,address,salary,dept,manager) values(1,'Ajay','Delhi', 12000,'HR','Deepak')

select \* From employee

insert into employee(id,name,address,salary,dept,manager) values(4,'Ajay','Delhi', 18000,'HR','Sagar1'),

(5,'Ajay','Delhi', 12000,'HR','Deepak2')

alter table employee add state varchar(20), pincode varchar(20) default '110015'

update employee set city ='Delhi'

alter table employee add state varchar(20), pincode varchar(20) default '110015'

alter table employee drop column address

alter table employee alter column city varchar(40)

insert into employee(id,name,address,salary,dept,manager) values(5,'Ajay','Delhi', 12000,'HR','Deepak')

select \* From employee

insert into employee(id,name,salary,dept,manager)

values

(6,'Ajay', 23000,'Accts','Pradeep'),

(7,'Ajay', 22000,'Accts','Garv'),

(8,'Ajay', 19000,'Accts','Lalit'),

(9,'Ajay', 22000,'Accts','Lalit2')

select \* from employee

-- Order by -- Sort the Records

select \* from Employee order by manager desc

select \* from Employee order by manager desc,salary desc

-- Functions : which perform some task

-- Inbuilt/system defined / user defined

-- System functions

-- String Function , numeric functions , Date Function, general functions

select upper(name), lower(name) from employee

select left(name , 3) from employee

select right(manager,4) from employee

select substring(manager, 1,3) from employee

select substring('This is a book', 2,8)

select Left('This is a string',2)

update employee set name = upper(name)

Select abs(-12)

select sign(2)

select sign(-2)

select GetDate()

select Convert(Date, GetDate())

SELECT CONVERT(Date, GETDATE()) AS "Current Date"

SELECT CONVERT(Time, GETDATE()) "Current Time"

Select datepart(day, getdate()) as currentdate

Select dateadd(day, 10, getdate()) as after10daysdatetimefromcurrentdatetime

Select dateadd(month, 10, getdate()) as after10daysdatetimefromcurrentdatetime

-- Convert from one type to other

Select convert(varchar(20), 200)

SELECT CONVERT(VARCHAR(19),GETDATE())

SELECT CONVERT(VARCHAR(10),GETDATE(),10)

SELECT CONVERT(VARCHAR(10),GETDATE(),103)

-- Functions

-- Scalar / Aggregate / Group Functions > Take multiple Records and give you

--single value

Select upper(name) from EMployee

-- sum avg count min max

select sum(salary) from employee

select sum(salary) AS "Total Salary" , avg(salary) as "Average Salary"

from employee

select count(\*) from employee

select \* from employee

-- group by clause

-- select {columnname} , aggregate function

-- from tablename

-- {where}

-- group by columnname

-- {having}

select dept, count(\*) from employee

group by dept

select dept , count(\*) from employee

where city is not null

group by dept

having count(\*) < 2

create table student (rn int , name varchar(20), subject varchar(20), marks int)

insert into student values

(1,'Anu','eng',90),

(2,'Deepak','eng',80),

(3,'Jatin','maths',56),

(4,'Anu','eng',76),

(5,'Anu','science',98),

(6,'Anu','eng',78),

(7,'Anu','eng',97),

(8,'Anu','maths',90),

(9,'Anu','science',91),

(10,'Anu','maths',19),

(1,'Anu','eng',90),

(1,'Anu','eng',90),

(1,'Anu','eng',90),

(1,'Anu','eng',90)

select dept , sum(salary) , avg(salary) from employee

group by dept

-- distinct

select distinct(dept) from employee

select \* from student

select subject , avg(marks) from student group by subject

select subject , avg(marks) from student

where marks > 20

group by subject

select subject , avg(marks) from student

where marks > 20

group by subject

having sum(marks) > 80

select \* from student

-- Arrange them according to their marks

-- row\_number()

--rank()

--dense\_number()

select rn, name, marks , row\_number() over (order by marks) as Rank

from student

select rn, name, marks , rank() over (order by marks) as Rank

from student

select rn, name, marks , dense\_rank() over (order by marks) as Rank

from student

-- Views : USed for security / restricted records are seen by different users

-- Virtual Tables : which does not exist. Data that we see thru a View Actuallu does not exist in that View.

--It comes from from base tables

select \* from Employee

create View HRView

AS

Select \* from employee where dept = 'HR'

select \* From HRView

create View SalaryLessthan2000

AS

Select \* from employee where salary < 20000

insert into HRView values(21,'Ajay',12000,'HR','Deepak100',21,'Delhi',null,null,null)

Select \* from SalaryLessthan2000

insert into SalaryLessthan2000 values(22,'Ajay',21000,'HR','Deepak1000',21,'Delhi',null,null,null)

alter View SalaryLessthan2000

AS

Select id,name , salary from employee where salary < 20000

with check option

insert into HRView values(22,'Ajay',21000,'HR','Deepak100',21,'Delhi',null,null,null)

Select \* from SalaryLessthan2000

insert into SalaryLessthan2000 values(23,'Ajay',19000)

alter View SalaryLessthan2000

AS

Select id,name , salary from employee where salary < 20000

with check option

insert into HRView values(22,'Ajay',21000,'HR','Deepak100',21,'Delhi',null,null,null)

Select \* from SalaryLessthan2000

insert into SalaryLessthan2000 values(23,'Ajay',19000)

drop View SalaryLessthan2000

create View HRView1

AS

Select \* from HRView