use newdb

select \* from student

-- NULL value

--when there is no data available

-- its not eqaul to 0 or blank

-- How do we put NULL in records

-- There are 2 ways to put NULL

-- 1. implict(by default)

insert into student(

rn ,name , manager, marks,batch)

values(6,'Lalit','Pawan',90,'B002'

select \* from student

-- 2. explict(We put NULL)

insert into student(rn, name ,

marks, address,

manager,course,batch)

values(7,'Ajay',90,NULL,'Om',NULL,NULL)

select \* from student where course IS NOT null

select \* from student where course IS null

update student set marks = 67 where

rn IN(4,5)

Functions

Inbulit / User defined

Scalar Functions / Aggregate Functions

Group / Aggregate Functions

Which takes some records and gives you single result

Sum , average , min , max , count

select \* from student

-- Aggregate Functions

select sum(marks) "Total Marks"

, avg(marks) AS "Average Marks",

min(marks) "Min Marks" ,

max(marks) "Max Marks" from student

-- How many records are there

select count(\*) from student

1 Ajay Delhi B001 DotNet 12-2 Trainer1

2 Deepak Delhi B001 DotNet 12-2 Trainer1

1 Ajay Delhi B001 DOtNet 12-2 Trainer1

1 Ajay Delhi B001 DOtNet 12-2 Trainer3

1 Ajay Delhi B001 DOtNet 12-2 Trainer1

1 Ajay Delhi B001 DOtNet 12-2 Trainer1

1 Ajay Delhi B002 Java 12-2 Trainer2

Student

Rn name address batchcode

Batch

Batchcode batchname course timings trainer

drop table student

create table batch(

batchcode char(4) primary key,

course varchar(10) constraint ckcourse check (course IN ('C','C++','C#')),

timings varchar(20),

duartion int,

trainer varchar(20))

create table student (

rn int constraint pkrn primary key,

name varchar(20) not null,

address varchar(30),

marks int constraint ckmarks check(marks between 0 and 100),

batchcode char(4) constraint fk

foreign key references batch(batchcode)

)

Foreign Key > It’s a key whose value is either null or it cud be from value of primary key of some other table

-- Remove constraint

alter table batch drop constraint ckcourse

insert into batch values('B001','C++','12-2pm',20,'trainer1'),

('B002','C#','2-4pm',25,'trainer2'),

('B003','C','2-4pm',20,'trainer1'),

('B004','DotNet','10-2pm',60,'trainer3'),

('B005','Asp.Net','12-2pm',20,'trainer4'),

('B006','Web Api','10-12pm',21,'trainer4')

select \* from student

insert into student values(1,'Ajay','Delhi', 90, 'B001')

insert into student values(2,'Vijay','N Delhi', 89, 'B003')

insert into student values(3,'Sagar','O Delhi', 90, 'B004')

JOINS

What is Join ? Why we need it?

Joins are used to bring data from more than one table

Type of Joins

1. Inner Join
2. Outer Join

* Left Outer Join
* Right Outer Join
* Full Outer Join

1. Self Join
2. Cross Join

Inner join : Gives you matching Records, There has to be one common column

Outer join : Gives you matching as well as non matching Records, There has to be one common column

Left Outer Join > Gives you all records from table on left side and matching records from table on right side

Right Outer Join > Gives you all records from table on right side and matching records from table on left side

Full Outer Join > Gives you all records from table on both sides

Cross Join : There is no need for having a common column

Columns are added & records are multiplied

Self Join : When a table is joined to itself

-- Inner Join

Select \* from student join batch

on student.batchcode = batch.batchcode

-- Rename column

exec sp\_rename 'Batch.duartion','duration' ,'column'

Select student.rn, student.name , student.address ,

student.batchcode , batch.course , batch.duration from

student join batch

on student.batchcode = batch.batchcode

-- alias

Select a.rn, a.name , a.address ,

a.batchcode , b.course ,b.duration from

student a join batch b

on a.batchcode = b.batchcode

-- Left Outer Join

Select a.rn, a.name , a.address ,

a.batchcode , b.course ,b.duration from

student a left outer join batch b

on a.batchcode = b.batchcode

-- Right Outer Join

Select \* from batch

Select a.rn, a.name , a.address ,

a.batchcode , b.course ,b.duration from

student a right outer join batch b

on a.batchcode = b.batchcode

-- Full Outer Join

Select a.rn, a.name , a.address ,

a.batchcode , b.course ,b.duration from

student a full outer join batch b

on a.batchcode = b.batchcode

-- Cross Join

-- All students should be added to all batches

select a.\* , b.\*

from student a cross join batch b

--Self Join

create table employee(id int primary key,

name varchar(20) , dept varchar(20),

managerid int)

insert into employee values(1,'Ajay', 'HR',3),

(2,'Sagar', 'Accts',2),

(3,'Ajay', 'Sales',1),

(4,'Lalit', 'HR',1),

(5,'Deepak', 'HR',2)

update employee set managerid=3 where id=2

select \* from employee

-- Give me empl names along with their Manager Names

select a.name "Employee Name",b.name "Manager"

from employee a join employee b

on a.managerid = b.id