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--create a database
create database dbcourseregistration_1000

use dbcourseregistration_1000

--DDL Data definition language create ,rename,alter,drop,truncate
--Create a course course table
--create table tablename (column1 datatype ,.....columnN datatype)
create table tblcourse(courseid varchar(20),coursename varchar(30),startdate date,
enddate date,fee int,maxiumstudents int,modeofcourse varchar(20))

--description of table
sp_help tblcourse
--alter the table
--alter table tblname alter column column1 datatype ,...N
alter table tblcourse alter column coursename varchar(35)

--drop modeofcourse column
--alter table tblname drop column columnname
alter table tblcourse drop column modeofcourse

--Adding column to existing table
--alter table tblname add columnname1 datatype,....,columnname1 datatype,
alter table tblcourse add modeofcourse varchar(20)

--drop table tablename
drop table tblcourse

--create a table again with primary key
--to identif records uniquely, not null,

--create table tablename (column1 datatype ,.....columnN datatype)
create table tblcourse(courseid varchar(20) primary key,coursename
varchar(30),startdate date,
enddate date,fee int,maxiumstudents int,modeofcourse varchar(20))

sp_help tblcourse
--drop primary key
--alter table tblcourse drop constraint constrain name
alter table tblcourse drop constraint PK__tblcours__2AAB4BC9BBF17359

--Adding primary key
--alter table tblcourse add constraint constraint name constrain type columnname
alter table tblcourse add constraint pk_cid primary key(courseid)

--DML -DataManipulation Language insert,update,delete
create table tblcourse(courseid varchar(20) primary key,coursename
varchar(30),startdate date,
enddate date,fee int,maxiumstudents int,modeofcourse varchar(20))

insert into tblcourse values('Java001','JavaBasics','2022-1-10','2022-1-
25',7000,15,'online')
--Multiple insert
insert into tblcourse(courseid
,coursename,startdate,enddate,fee,maxiumstudents,modeofcourse) values
('Java002','JavaAdvanced','2022-1-10','2022-2-28',20000,15,'online'),
('AI001','AIBasics','2022-2-5','2022-2-25',7000,15,'offline')

insert into tblcourse(courseid
,coursename,startdate,enddate,fee,maxiumstudents,modeofcourse) values
('.Net1','.NetFramework','2022-2-10','2022-3-28',25000,10,'online'),

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('.Net2', '.NetCore', '2022-2-12', '2022-3-28', 30000, 12, 'offline')

--update
update tblcourse set modeofcourse='online' where courseid='.Net2'

--delete -Hard delete, soft delete
--Hard delete

delete from tblcourse where courseid='AI001'

--adding a colmn to tblcourse

alter table tblcourse add isavailable bit

--common update
update tblcourse set isavailable=1

--soft delete and also updating particular column
update tblcourse set isavailable=0 where courseid='.Net2'

--deleting all records
--what is the difference truncate and delete
delete from tblcourse
truncate table tblcourse

select * from tblcourse
--DQl -select

insert into tblcourse(courseid
,coursename,startdate,enddate,fee,maxiumstudents,modeofcourse) values
('Sql1', 'Sqlserver', '2022-3-1', '2022-3-15', 5000, 7, 'offline'),
('CCNA1', 'NetWorkingPhase1', '2022-4-1', '2022-4-28', 16000, 30, 'online')

-- All the rows from table

select * from tblcourse

--selecting particular columns

select coursename,fee from tblcourse

--Alaise Name
select coursename as Course,fee 'Course Fee' from tblcourse

--Relaional Operator >,<,>=,<=,!=,=,or,between
select coursename ,fee ,maxiumstudents from tblcourse where fee>20000

select coursename ,fee ,maxiumstudents from tblcourse where maxiumstudents>10 and
maxiumstudents<=13

select coursename ,fee ,maxiumstudents from tblcourse where maxiumstudents between 10
and 13

select coursename ,fee ,maxiumstudents from tblcourse where startdate between '2022-
1-1' and '2022-2-15'
--Negative Operator not ,!
select coursename ,fee ,maxiumstudents from tblcourse where not startdate between
'2022-1-1' and '2022-2-15'

select courseid ,coursename from tblcourse where maxiumstudents!=15

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--Null
select * from tblcourse where isavailable is null

select * from tblcourse where isavailable is not null
--wrong
select * from tblcourse where isavailable = null

--In
select courseid,enddate from tblcourse where enddate in('2022-3-15','2022-4-28','2022-2-17')

--or
select courseid,enddate from tblcourse where enddate = '2022-3-15' or enddate = '2022-4-28' or enddate = '2022-2-17'
--Arithmetic operator +,-,/,*,%
select * from tblcourse

update tblcourse set maxiumstudents=maxiumstudents+2

update tblcourse set maxiumstudents=maxiumstudents-7 where
coursename='Javaadvanced'

--Like operator %-zero or more character,_-->single character,[],^
select courseid,coursename from tblcourse where coursenam like 's%' --starting
with s
select courseid,coursename from tblcourse where coursenam like '%a' --ends
with a
select courseid,coursename from tblcourse where coursenam like '%e_%'
select courseid,coursename from tblcourse where coursenam like '_e%'--e
should be in second position
select courseid,coursename from tblcourse where coursenam like '[a-l]%' --
course name start letter is from a to l
select courseid,coursename from tblcourse where coursenam like 'j[^bc]%'--
first character as j not second character as b or c

--Number function
select CEILING(167.90)
select floor(167.90)

select TAN(45)

--area of circle
declare @r int =3,@areaofcircle float
set @areaofcircle=PI()*SQUARE(@r)
print @areaofcircle
--Character function
select LOWER(coursename) 'Course Name' from tblcourse

select upper(coursename) 'Course Name' from tblcourse

select coursenam,charindex('o',coursename) 'Course Name' from tblcourse

select CONCAT_WS(' ',courseid,coursename) from tblcourse
--Date and Time Function
select GETDATE() 'current data and time'
select CONVERT(date,GETDATE()) 'Date'
select datepart(DAY,GETDATE()) 'Day'
select datepart(Month,GETDATE()) 'Month'
select datepart(Year,GETDATE()) 'year'
select Dateadd(DAY,5,GETDATE()) 'adding 5 days with Today'
--finding the duration of course
select coursenam,datediff(DAY,startdate,enddate) 'CourseDuration' from tblcourse

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--Aggregate function --works in groups Min,Max,Avg,Sum,count

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select * from tblcourse
select count(coursename) from tblcourse
select count(isavailable) from tblcourse --count exclude null values
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select min(maxiumstudents) from tblcourse
select max(maxiumstudents) from tblcourse
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--Order by asc,desc

--select coulumn list from tablename where condition order by column1 ,...columnN

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select * from tblcourse order by maxiumstudents
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select * from tblcourse order by maxiumstudents desc
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select * from tblcourse where fee > 7000 order by maxiumstudents desc
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select * from tblcourse order by modeofcourse,maxiumstudents desc
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select * from tblcourse order by len(coursename)
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--based on column in select list

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select courseid,fee,startdate from tblcourse order by 3 desc
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select courseid,fee,startdate from tblcourse order by 2
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