

# SMARTH BHARDWAJ

S24CSEU1784

## ASSIGNMENT 1

```
create database Bennett_University;
```

```
use Bennett_University;
```

```
create table List_Courses(
```

```
Course_code varchar(20),
```

```
Course_title varchar(100),
```

```
Credits int,
```

```
Semester int,
```

```
Instructor_id int
```

```
);
```

```
create table Instructor_details (
```

```
Instructor_id int,
```

```
Instructor_name varchar(100),
```

```
Department varchar(50)
```

```
);
```

```
create table List_Students (
```

```
Registration_id varchar(20),
```

```
S_Name varchar(100),
```

```
Semester int,
```

```
Course_code varchar(20),
```

```
Age int,
```

```
Instructor_id int
```

```
);
```

```
insert into List_Courses (Course_code, Course_title, Credits, Semester, Instructor_id) values
```

```
('CS301', 'DBMS', 4, 3, 101),
```

```
('CS302', 'OS', 3, 3, 102),
```

```
('CS101', 'Physics', 3, 1, 103),
```

```
('CS303', 'java', 3, 3, 104),
```

```
('CS505', 'Discrete Math', 4, 5, 105),
```

```
('CS701', 'Cloud Computing', 3, 7, 106),
```

```
('EC303', 'DLD', 2, 5, 107),
```

```
('MBA501', 'Economics', 3, 5, 108);
```

```
insert into Instructor_details (Instructor_id, Instructor_name, Department) values
```

```
(101, 'Ashish', 'CSE'),
```

```
(102, 'Shivam', 'CSE'),
```

```
(103, 'Ravi', 'ME'),
```

```
(104, 'Sujit', 'CSE'),
```

```
(105, 'Alka', 'CSE'),
```

```
(106, 'Suman', 'CSE'),
```

```
(107, 'Mukund', 'EC'),
```

```
(108, 'Rohit', 'MBA');
```

```

insert into List_Students (Registration_id, S_Name, Semester, Course_code, Age,
Instructor_id) values
('SCS012', 'Arjun', 3, 'CS301', 17, 101),
('SCS013', 'Anamika', 3, 'CS301', 19, 101),
('SCS012', 'Divya', 3, 'CS302', 20, 102),
('SCS014', 'Diya', 1, 'CS101', 19, 103),
('SCS015', 'Abhishek', 3, 'CS303', 17, 104),
('SCS090', 'Shiva', 3, 'CS303', 16, 104),
('SCS071', 'Rahul', 5, 'CS505', 21, 105),
('SCS043', 'Rupam', 3, 'EC303', 22, 107),
('SCS017', 'Hina', 3, 'EC303', 23, 107),
('SCS022', 'Alam', 5, 'MBA501', 21, 108),
('SCS056', 'Satya', 7, 'CS701', 23, 106);
select * from List_Courses;
select * from List_Students where Semester = 3;
select * from Instructor_details where Instructor_name is null;
select * from List_Students where Semester = 3 and Age > 18;
select * from Instructor_details where Department = 'CSE' or Department = 'MBA';
alter table List_Students add column Blood_group varchar(10);
alter table List_Students drop column Blood_group;
create table new_students as select * from List_Students;
select * from new_students;
alter table new_students modify column Age varchar(10);
alter table new_students change column S_Name Student_Name varchar(100);
SET SQL_SAFE_UPDATES = 0;
delete from new_students where Age > 22;
update new_students set Age = 17 where Student_Name = 'Shiva';

```

## ASSIGNMENT 2

```

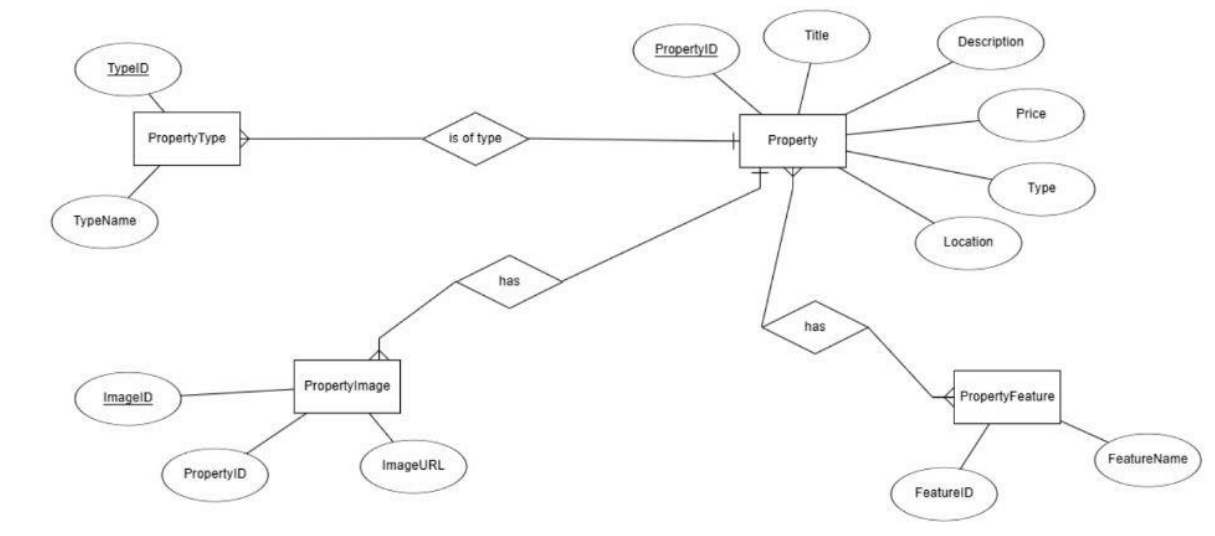
create database Student;
use Student;
create table stud(
Reg_no int,
S_name varchar(50),
S_city varchar(100),
Enr_Year Year,
Branch varchar(10),
Age int,
Semester int,
Grades decimal(3,1));
insert into stud(Reg_No,S_name,S_city,Enr_year,Branch,Age,Semester,Grades)
values(101,"Saloni","Delhi",2023,"CSE",18,3,7.5),
(102,"Bindu","UP",2023,"CSE",19,3,6.4),
(103,"Amit","UP",2023,"ECE",17,3,8.2),
(104,"Akshat","Haryana",2022,"ECE",18,5,9.5),

```

```
(105,"Advik","Delhi",2022,"ECE",20,5,9.2),
(106,"Saurabh","Delhi",2021,"ECE",19,7,7.2);
select COUNT(*) AS total_ece_students FROM stud WHERE Branch = 'ECE';
```

```
select max(Grades) as Highest from stud where Semester=3;
select avg(Grades) as Average_Grades from stud;
select Reg_no,S_name,Branch,Semester,ceil(Grades) from stud;
Select Reg_no,S_name,left(Branch,2),Semester from stud;
select * from stud where length(S_name)>5;
```

### ASSIGNMENT 3



### ASSIGNMENT 4

```
create database Bennett_University;
use Bennett_University;
```

```
create table List_Courses (
    Course_code varchar(20),
    Course_title varchar(100),
    Credits int,
    Semester int,
    Instructor_id int
);
```

```
create table Instructor_details (
    Instructor_id int,
    Instructor_name varchar(100),
    Department varchar(50)
);
```

```
create table List_Students (
    Registration_id varchar(20),
```

```
S_Name varchar(100),
Semester int,
Course_code varchar(20),
Age int,
Instructor_id int
);
```

```
insert into List_Courses (Course_code, Course_title, Credits, Semester, Instructor_id)
values
```

```
('CS301', 'DBMS', 4, 3, 101),
('CS302', 'OS', 3, 3, 102),
('CS101', 'Physics', 3, 1, 103),
('CS303', 'java', 3, 3, 104),
('CS505', 'Discrete Math', 4, 5, 105),
('CS701', 'Cloud Computing', 3, 7, 106),
('EC303', 'DLD', 2, 5, 107),
('MBA501', 'Economics', 3, 5, 108);
```

```
insert into Instructor_details (Instructor_id, Instructor_name, Department) values
```

```
(101, 'Ashish', 'CSE'),
(102, 'Shivam', 'CSE'),
(103, 'Ravi', 'ME'),
(104, 'Sujit', 'CSE'),
(105, 'Alka', 'CSE'),
(106, 'Suman', 'CSE'),
(107, 'Mukund', 'EC'),
(108, 'Rohit', 'MBA');
```

```
insert into List_Students (Registration_id, S_Name, Semester, Course_code, Age,
Instructor_id) values
```

```
('SCS012', 'Arjun', 3, 'CS301', 17, 101),
('SCS013', 'Anamika', 3, 'CS301', 19, 101),
('SCS016', 'Divya', 3, 'CS302', 20, 102),
('SCS014', 'Diya', 1, 'CS101', 19, 103),
('SCS015', 'Abhishek', 3, 'CS303', 17, 104),
('SCS090', 'Shiva', 3, 'CS303', 16, 104),
('SCS071', 'Rahul', 5, 'CS505', 21, 105),
('SCS043', 'Rupam', 3, 'EC303', 22, 107),
('SCS017', 'Hina', 3, 'EC303', 23, 107),
('SCS022', 'Alam', 5, 'MBA501', 21, 108),
('SCS056', 'Satya', 7, 'CS701', 23, 106);
```

```
select * from List_Students order by Age asc;
```

```
select Semester, count(*) as Number_of_Students from List_Students group by
Semester;
```

```
select * from List_Courses where Credits > 2 order by Credits desc;
```

```
select * from List_Courses where Semester in (3, 5) order by Course_code;
```

```
select * from List_Courses order by Credits desc, Semester asc;
```

```
select Instructor_id, max(Credits) as Max_Credits from List_Courses group by  
Instructor_id;
```

```
select Instructor_id, count(*) as Number_of_Courses from List_Courses where  
Semester = 3 group by Instructor_id;
```

```
create view Instructor_Course_Count as  
select Instructor_id, count(*) as Number_of_Courses from List_Courses group by  
Instructor_id;
```

```
create view Student_Course_Count as  
select Registration_id, S_Name, count(*) as Number_of_Courses from List_Students  
group by Registration_id, S_Name;
```

```
create view Semester3_Students as  
select * from List_Students where Semester = 3 order by Age;
```

```
create view Department_Instructor_Count as  
select Department, count(*) as Number_of_Instructors from Instructor_details group by  
Department order by Department;
```

## ASSIGNMENT 5

```
create database Bennett_University;  
use Bennett_University;  
create table courses (  
    course_code varchar(10),  
    course_title varchar(50),  
    credits int,  
    semester int,  
    instructor_id int  
);  
insert into courses values  
('cs301', 'dbms', 4, 3, 101),  
('cs302', 'os', 3, 3, 102),  
('cs101', 'physics', 3, 1, 103),  
('cs303', 'java', 3, 3, 104),  
('cs505', 'discrete math', 4, 5, 105),  
('cs701', 'cloud computing', 3, 7, 106),  
('ec303', 'dld', 2, 5, 107),  
('mba501', 'economics', 3, 5, 108);
```

```
create table instructors (  
    instructor_id int,  
    instructor_name varchar(50),  
    department varchar(20)  
);  
insert into instructors values  
(101, 'ashish', 'cse'),  
(102, 'shivam', 'cse'),  
(103, 'ravi', 'me'),  
(104, 'sujit', 'cse'),  
(105, 'alka', 'cse'),  
(106, 'suman', 'cse'),  
(107, 'mukund', 'ec'),  
(108, 'rohit', 'mba'),  
(109, 'divyanshu', 'mba'),  
(110, 'abhijit', 'law');
```

```
create table students (  
    registration_id varchar(20),  
    s_name varchar(30),  
    semester int,  
    course_code varchar(10),  
    age int,  
    instructor_id int  
);  
insert into students values  
('scs012', 'arjun', 3, 'cs301', 17, 101),  
('scs013', 'anamika', 3, 'cs301', 19, 101),  
('scs012', 'divya', 3, 'cs302', 20, 102),  
('scs014', 'diya', 1, 'cs101', 19, 103),  
('scs015', 'abhishek', 3, 'cs303', 17, 104),  
('scs090', 'shiva', 3, 'cs303', 16, 104),  
('scs071', 'rahul', 5, 'cs505', 21, 105),  
('scs022', 'alam', 5, 'mba501', 21, 108),  
('scs056', 'satya', 7, 'cs701', 23, 106);  
create table experience (  
    instructor_id int,  
    experience int  
);
```

```
insert into experience values  
(101, 0),  
(102, 1),  
(103, 3),  
(104, 5),  
(105, 1),
```

```

(106, 0),
(107, 0),
(108, 6),
(109, 5),
(110, 5);
select courses.course_title, instructors.instructor_name
from courses
inner join instructors
on courses.instructor_id = instructors.instructor_id;
select instructors.instructor_name, experience.experience
from instructors
inner join experience
on instructors.instructor_id = experience.instructor_id
where experience.experience = 0;
select students.s_name, instructors.instructor_name, experience.experience
from students
right join instructors
on students.instructor_id = instructors.instructor_id
left join experience
on instructors.instructor_id = experience.instructor_id
where experience.experience > 3;
select instructors.instructor_name, experience.experience
from instructors
inner join experience
on instructors.instructor_id = experience.instructor_id
where experience.experience = (
    select max(experience) from experience
);
select instructors.instructor_name, students.s_name, students.course_code
from instructors
inner join students
on instructors.instructor_id = students.instructor_id
where students.course_code in ('cs301', 'cs302');
select instructors.instructor_name
from instructors
left join students
on instructors.instructor_id = students.instructor_id
where students.registration_id is null;
select avg(students.age) as average_age
from students
where students.course_code = 'cs301';
select experience.instructor_id, experience.experience, students.s_name
from experience
left join students
on experience.instructor_id = students.instructor_id
where students.s_name is null;
select count(*) as total_rows

```

from instructors  
cross join students;