# Joins | Sub-Queries | View

**1.Database Creation:-**

show databases;

use Pract_2;

**2.Table Creation:-**

create table student(rollno int primary key, name varchar(50) not null, email varchar(50) unique, age int check(age>=18), department varchar(30) default'aids');

create table course(courseid int primary key, coursename varchar(50) not null, credit int);

create table marks(id int auto_increment primary key,rollno int references student(rollno), courseid int references course(courseid), marks int);

**3.Inserting Data into Table:-**

insert into student(rollno, name, email,age) values (101, 'sakshi', 'sakshiavghade09@gmail.com', 20);

select *from student;

insert into student(rollno, name, email, age, department) values (102, 'pragati', 'pragati@gmail.com', 20, 'computer'), (103, 'siddhi', 'siddhi@gmail.com', 20, 'IT'), (104, 'mahima', 'mahima@gmail.com', 20, 'computer');

insert into course(courseid, coursename, credit) values (1,'DBMS',4), (2,'OOP',3), (3,'OS',3), (4,'Java',4);

insert into marks(rollno, courseid, marks) values (101, 1, 85), (102, 2,  90), (102, 1, 67), (103, 2, 89), (104, 1, 69),(103, 1, 88);

**4.Inner Join:-**

select s.name, s.department, c.coursename, m.marks from student s inner join marks m on s.rollno=m.rollno inner join course c on m.courseid = c.courseid;

**5.Left Outer Join:-**

select s.name, s.department, c.coursename, m.marks from student s left join marks m on s.rollno=m.rollno left join course c on m.courseid=c.courseid;

**6.Right Outer Join:-**

select s.name, s.department, c.coursename, m.marks from student s right join marks m on s.rollno=m.rollno right join course c on m.courseid=c.courseid;

**7.Full Outer Join:-**

select s.name , s.department, c.coursename, m.marks from student s left join marks m on s.rollno=m.rollno left join course c on m.courseid=c.courseid union select s.name, s.department, c.coursename, m.marks from student s right join marks m on s.rollno=m.rollno right join course c on m.courseid=c.courseid;

**8.Cross Join:-**

select s.name, c.coursename from student s cross join course c;

**9.Sub-Query(Where):-**

select name, rollno from student where rollno in (select rollno from marks where marks > (select avg (marks) from marks));

select name , rollno from student s where exists (select * from marks m join course c on m.courseid=c.courseid where m.rollno=s.rollno and c.coursename='DBMS');

**10.Sub-Query(Group By):-**

select coursename from course where courseid in (select courseid from marks group by courseid having count(rollno)>1);

**11.Sub-Query(Having):-**

select c.coursename, avg(m.marks) as avg_marks from course c join marks m on c.courseid=m.courseid group by c.coursename having avg(m.marks)>(select avg(marks) from marks);

**12.Creating View using Join:-**

create view student_performance as select s.rollno, s.name, s.department, sum(m.marks) as totalmarks, avg(m.marks) as avgmarks from student s join marks m on s.rollno=m.rollno group by s.rollno, s.name, s.department;

select * from student_performance;