Agenda

```
Joins
```

Getting Ready

```
-- Import the joins.sql file in your classwork_db
SOURCE <path to joins.sql file>

SHOW TABLES;

SELECT * FROM emps;
SELECT * FROM depts;
SELECT * FROM addr;
SELECT * FROM emp_meeting;
SELECT * FROM meeting;
```

CROSS JOIN

```
--display empname and deptname
SELECT ename FROM emps;

SELECT dname FROM depts;

SELECT ename,dname FROM emps CROSS JOIN depts;

SELECT emps.ename,depts.dname FROM emps CROSS JOIN depts;

SELECT e.ename,d.dname FROM emps AS e CROSS JOIN depts AS d;

SELECT e.ename,d.dname FROM emps e CROSS JOIN depts d;

SELECT e.ename,d.dname,e.deptno FROM emps e CROSS JOIN depts d;

SELECT e.ename,d.dname,d.deptno FROM emps e CROSS JOIN depts d;

SELECT e.ename,d.dname,d.deptno FROM depts d CROSS JOIN emps e;
```

INNER JOIN

```
--display empname and deptname
SELECT ename FROM emps;

SELECT dname FROM depts;
```

```
--equi-join
SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON
e.deptno=d.deptno;

--nonequi-join
SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON
e.deptno!=d.deptno;
```

LEFT OUTER JOIN

```
--display emp and deptname but if the deptname doesn not exists display it as null
SELECT ename FROM emps;

SELECT dname FROM depts;

SELECT e.ename,d.dname FROM emps e
LEFT OUTER JOIN depts d ON
e.deptno=d.deptno;

SELECT e.ename,d.dname FROM emps e
LEFT JOIN depts d ON
e.deptno=d.deptno;


SELECT e.ename,d.dname FROM depts d
RIGHT JOIN emps e ON
e.deptno=d.deptno;
```

RIGHT OUTER JOIN

```
--display emp and deptname but if the emps doesn not exists in depts then display
emps as null

SELECT ename FROM emps;

SELECT dname FROM depts;

SELECT e.ename,d.dname FROM emps e
RIGHT OUTER JOIN depts d
ON e.deptno=d.deptno;

SELECT e.ename,d.dname FROM emps e
RIGHT JOIN depts d
ON e.deptno=d.deptno;
```

FULL OUTER JOIN

```
It is not supported in mysql but can be implemented using UNION and UNION ALL
operator
```

```
SELECT e.ename,d.dname FROM emps e
LEFT JOIN depts d ON
e.deptno=d.deptno
UNION
SELECT e.ename,d.dname FROM emps e
RIGHT JOIN depts d
ON e.deptno=d.deptno;

SELECT e.ename,d.dname FROM emps e
LEFT JOIN depts d ON
e.deptno=d.deptno
UNION ALL
SELECT e.ename,d.dname FROM emps e
RIGHT JOIN depts d
ON e.deptno=d.deptno;
```

SELF JOIN

```
-- display the ename and the manager name
SELECT e.ename,m.ename FROM emps e
INNER JOIN emps m ON
e.mgr = m.empno;

SELECT e.ename,m.ename FROM emps e
LEFT JOIN emps m ON
e.mgr = m.empno;

SELECT e.ename emp,m.ename mgr FROM emps e
LEFT JOIN emps m ON
e.mgr = m.empno;
```

JOINS PRACTICE

```
--display ename and taluka of all the employees
SELECT * FROM emps;
SELECT * FROM addr;

SELECT e.ename, a.tal FROM emps e
INNER JOIN addr a ON
```

```
e.empno=a.empno;

-- display ename,deptname and district of all employees
SELECT * FROM emps;
SELECT * FROM depts;
SELECT * FROM addr;

SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON
e.deptno=d.deptno;

SELECT e.ename, a.dist FROM emps e
INNER JOIN addr a ON
e.empno=a.empno;

SELECT e.ename,d.dname,a.dist FROM emps e
INNER JOIN depts d ON e.deptno = d.deptno
INNER JOIN addr a ON e.empno = a.empno;

SELECT e.ename,d.dname,a.dist FROM emps e
LEFT JOIN depts d ON e.deptno = d.deptno
INNER JOIN addr a ON e.empno = a.empno;

-- display ename and meeting topic he is attending
SELECT * FROM emps;
SELECT * FROM meeting;
SELECT * FROM emp_meeting;

SELECT e.ename,m.meetno FROM emps e
INNER JOIN emp_meeting m ON
e.empno = m.empno;

SELECT t.topic,m.empno FROM meeting t
INNER JOIN emp_meeting m ON
t.meetno = m.meetno;

SELECT e.ename,t.topic FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno;

--diplay ename,topic,dist,tal of all emps
SELECT * FROM emps;
SELECT * FROM addr;
SELECT * FROM meeting;
SELECT * FROM emp_meeting;

SELECT e.ename, a.tal,a.dist FROM emps e
INNER JOIN addr a ON e.empno=a.empno;

SELECT e.ename,m.meetno FROM emps e
INNER JOIN emp_meeting m ON e.empno = m.empno;

SELECT t.topic,m.empno FROM meeting t
INNER JOIN emp_meeting m ON t.meetno = m.meetno;
```

```
SELECT e.ename,t.topic FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno;

SELECT e.ename,t.topic,a.tal,a.dist FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno
INNER JOIN addr a ON e.empno=a.empno;

--diplay ename,dname,topic,dist,tal of all emps
SELECT * FROM emps;
SELECT * FROM depts;
SELECT * FROM addr;
SELECT * FROM meeting;
SELECT * FROM emp_meeting;

SELECT e.ename, a.tal,a.dist FROM emps e
INNER JOIN addr a ON e.empno=a.empno;

SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON e.deptno=d.deptno;

SELECT e.ename,m.meetno FROM emps e
INNER JOIN emp_meeting m ON e.empno = m.empno;

SELECT t.topic,m.empno FROM meeting t
INNER JOIN emp_meeting m ON t.meetno = m.meetno;

SELECT e.ename,t.topic FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno;

SELECT e.ename,t.topic,a.tal,a.dist FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno
INNER JOIN addr a ON e.empno=a.empno;

SELECT e.ename,t.topic,a.tal,a.dist,d.dname FROM emps e
INNER JOIN emp_meeting m ON e.empno=m.empno
INNER JOIN meeting t ON m.meetno = t.meetno
INNER JOIN addr a ON e.empno=a.empno
LEFT JOIN depts d ON e.deptno=d.deptno;
```

JOINS PRACTICE - 2

```
-- print dname and count of emps in that dept
SELECT * FROM emps;
SELECT * FROM depts;

SELECT deptno,COUNT(empno) FROM emps GROUP BY deptno;
```

```
SELECT d.dname,COUNT(e.empno) FROM emps e
INNER JOIN depts d ON e.deptno = d.deptno
GROUP BY d.dname;

SELECT d.dname,COUNT(e.empno) FROM emps e
RIGHT JOIN depts d ON e.deptno = d.deptno
GROUP BY d.dname;

-- display ename and count of meetings attended by emps in desc order of meeting
count
SELECT * FROM emps;
SELECT * FROM emp_meeting;

SELECT empno,COUNT(meetno) FROM emp_meeting GROUP BY empno;

SELECT empno,COUNT(meetno) FROM emp_meeting GROUP BY empno ORDER BY 2 DESC;

SELECT e.ename,COUNT(m.meetno) FROM emp_meeting m
INNER JOIN emps e ON m.empno = e.empno
GROUP BY e.ename ORDER BY 2 DESC;

-- display all emps from DEV department

SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON e.deptno=d.deptno;

SELECT e.ename FROM emps e
INNER JOIN depts d ON e.deptno=d.deptno
WHERE d.dname = "DEV";
```

USAGE OF ALL CLAUSES

```
SELECT col1,col2, FROM table_name1
XXX JOIN table_name2 ON _____
XXX JOIN table_name3 ON _____
WHERE condition
GROUP BY col
HAVING condition
ORDER BY col
LIMIT;
```

NON STANDARD JOIN

```
-- display ename and dname from emps and depts table
SELECT e.ename,d.dname FROM emps e
INNER JOIN depts d ON e.deptno=d.deptno;
```

```
SELECT e.ename,d.dname FROM emps e
JOIN depts d ON e.deptno=d.deptno;
-- writing a join without the mentioning type will always consider it as INNER
JOIN

SELECT e.ename,d.dname FROM emps e
CROSS JOIN depts d ON e.deptno=d.deptno;

SELECT e.ename,d.dname FROM emps e
CROSS JOIN depts d WHERE e.deptno=d.deptno;

SELECT e.ename,d.dname FROM emps e,
depts d WHERE e.deptno=d.deptno;
-- Old Style Join

SELECT e.ename,d.dname FROM emps e
JOIN depts d USING(deptno);

SELECT e.ename,d.dname FROM emps e
NATURAL JOIN depts d;

--display all the possible combintion of depts for AMIT and NILESH
SELECT e.ename,d.dname FROM emps e
CROSS JOIN depts d;

SELECT e.ename,d.dname FROM emps e
CROSS JOIN depts d WHERE e.ename IN("AMIT","NILESH");
```