***Elect* Department of Electronics and Telecommunication Engineering**

***G***

|  |  |
| --- | --- |
| Semester | T.E. Semester VI – EXTC Engineering |
| Subject | Computer Communication Network (CCN) |
| Laboratory Teacher: | Prof. Santosh Tamboli |
| Laboratory | MS-Teams online |

|  |  |  |
| --- | --- | --- |
| Student Name | Anuj Shah | |
| Roll Number | 18104B0024 | |
| Grade and Subject Teacher’s Signature |  |  |

|  |  |  |
| --- | --- | --- |
| Experiment Number | 10 | |
| Experiment Title | Joins | |
| Aim | To study and implement joins | |
| Resources / Apparatus Required | Hardware: PC | Software: Oracle Database 10g |
| Theory: | There are 7 types of Joins:   1. cross join:   It is used to join 2 tables.  If 1st table has m rows and other has n rows  cross join create m\*n rows  e.g.  m=3  n=5  rows: 15  E.g.:  select \*  from employee, dept  OR  select \*  from employee cross join dept  To display selected columns:  select id, name, e.dno, d.dno, dname  from employee e cross join dept d  where, e and d are alias names for employee and dept   1. equijoin:   If equality condition added to the cross join then it is called as equijoin.  E.g.:  select id, name, e.dno, d.dno, dname  from employee e cross join dept d  where e.dno=d.dno   1. non-equijoin:   It does not have equality condition.  E.g.:  select id, name, salary, e.dno, d.dno, dname  from employee e cross join dept d  where salary between 4000 and 5500   1. natural join:   Output is same as equijoin  In equijoin, it is compulsory to specify common column in where condition.  But in natural join, it is not required to specify common column.  Employee....dno  Dept........did  Then natural join will not work.  In Natural Join common column name must be same and data type must be same.  But in equijoin, it is not required  where e.dno=d.did  E.g.:  select id, name, dno, dname  from employee natural join dept  More than 2 tables:  select \*  from employee natural join dept natural join location   1. inner join:   This is used to join 2 tables at a time and produces same output like natural join i.e. rows will be displayed having matching values in common column.  E.g.:  select id, name, salary, dno, dname  from employee natural join dept  select id, name, salary, e.dno, dname  from employee e inner join dept d  on(e.dno=d.dno)  select id, name, salary, e.dno, dname  from employee e cross join dept d  where e.dno=d.dno  select id, name, salary, e.dno, dname  from employee e, dept d  where e.dno=d.dno   1. outer join:   It is used to display matching as well as non matching rows.  There are 3 types:  a. Left outer join: it display matching rows from both tables. and non matching from left side table  select id, name, salary, e.dno, d.dno, dname  from employee e left outer join dept d  on(e.dno=d.dno)  OR  select id, name, salary, e.dno, d.dno, dname  from employee e, dept d  where e.dno=d.dno(+)  b. Right outer join: It display matching rows from both tables. and non matching from right side table.  select id, name, salary, e.dno, d.dno, dname  from employee e right outer join dept d  on(e.dno=d.dno)  OR  select id, name, salary, e.dno, d.dno, dname  from employee e, dept d  where e.dno(+)=d.dno  c. Full outer join: It display matching as well as non matching rows from both tables.  select id, name, salary, e.dno, d.dno, dname  from employee e full outer join dept d  on(e.dno=d.dno)   1. self join:   One table join with itself. Display employee and their managers.  select worker.name as "Employee", manager.name as "Manager"  from emp worker ,emp manager  where worker.mgr=manager.id   1. join with ‘using’ clause, join with ‘on’ clause:   select id, name, salary, e.dno, dname  from employee e join dept d  on(e.dno=d.dno)  OR  select id, name, salary, dno, dname  from employee join dept  using(dno) | |
| Results: | Tables  Employee table:      Dept table:      Cross join      Equijoin      Non-equijoin      Natural join      Inner join      Outer join              Join with ‘using’ clause | |
| Conclusion: | From this experiment, we can conclude that joins are used to join 2 tables based on conditions provided and depending on type of join. | |