```
 3 | game      |       250 |        2
 4 | Perl      |        80 |        4
 (4 rows)


 Assign table
 project | stud |
 percentage  ---------
 +------+------------
 1 |    2 |         10
 1 |    4 |         60
 1 |    1 |         30
 2 |    1 |         50
 2 |    4 |         50
 3 |    2 |         70
        3 |    4 |         30
 (7 rows)
```

3.4.1 : Cross Join:

Each row from table one is arbitrarily combine with each row from table two.

This is known as a Cartesian product. In practical terms a cross join is a join without a join condition
Each row in teachers is arbitrarily combined with each row in projects.:

Example: Cross join of tables *teachers* and *project* will be

```
 > SELECT * FROM teachers, projects;

 id |  name   | id |   name    | duration |
teacher  ----+--------+----+----------+----
------+---------
  1 | Volker |  1 | compiler |      180 |
1
```

```
  1 | Volker |  2 | xpaint   |      120 |
1
  1 | Volker |  3 | game     |      250 |
2
1 | Volker |  4 | Perl     |      80  |
  4
2 | Elke   |  1 | compiler |      180 |
  1
  2 | Elke   |  2 | xpaint   |      120 |
1
  2 | Elke   |  3 | game     |      250 |
2
  2 | Elke   |  4 | Perl     |      80  |
4

(8 rows)
```

3.4.2 : Inner Join :

Inner joins are the most common type of joins, they combine two or more tables using where clause as main condition with equality "=" sign or inequality "!=" .

A field from the first table is compared to another field from the second table and if they are equal (or not equal) the two records from the two tables are combined.

Example : inner join of tables *teachers* and *project* if the condition is teachers.id = projects.id will be

SELECT * FROM teachers, projects ***where*** teachers.id = projects.id;

```
id |  name  | id |   name   | duration |
teacher  ----+--------+----+----------+----
------+---------
1 | Volker |  1 | compiler |      180 |
  1
```

```
2 | Elke    |  2 | xpaint    |       120 |
  1
```

Example : inner join of tables *teachers* and *project* if the condition is teachers.id ! = projects.id will be

SELECT * FROM teachers, projects where teachers.id != projects.id;

```
id |  name   | id |   name    | duration |
teacher  ----+--------+----+----------+----
------+---------
1 | Volker |  2 | xpaint    |       180 |
  1
  1 | Volker |  3 | game      |       180 |
1
1 | Volker |  4 | Perl      |       180 |
  1
2 | Elke   |  1 | compiler |       120 |
  1
2 | Elke   |  3 | game      |       120 |
  1
  2 | Elke   |  4 | Perl    |       120 |
1
```

There is another format for inner join ***select T1.F1, F2,F3,…,FN from T1 inner join T2 <u>on</u> (T1.F1 = T2.F1) inner join T3 <u>on</u> (T2.F1=T3.F1) inner join ……***