```
1. Basic ORM
                                                                                                    1. JOINS
                                        2. Bulk Operation
R ➡Object Relational Mapping
                                         Advanced ORM
                                                                                                   2. 1+N Select problem
                                            a. Composition Mapping
                                                                                                   3. Locking in hibernate
                                            b. Inheritance Mapping
                                            c. Collection Mapping
                                            d. Association Mapping(uni-dir and bi-dir)
                                                  a. M-1 b. M-M c. 1-1 d. 1-M
                                     M-1

    M-1(uni/bi)

                                                                         Annotations used are
                                                 c2pk
                                                              c1FK
                                                                          a. @ManyToOne(....,mappedBy="")
                                                                         b. @OneToMany
                                                                             @JoinColumn(....)
2. M-M(bi)

    Hiberante-31-Association-Mapping-M2M(BI)

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src

                                                                        Annotations used are
                                                                                                                                           in.pwskills.nitin.bean
                                                                         a.@ManyToMany(....,mappedBy="")
b.@JoinTable(name="",
                                                                                                                                             > 👤 Doctor.java
                                                                                                                                             > 🗾 Patient.java
                                                                                                                                           in.pwskills.nitin.dao
                                                                                         joinColumns = @JoinColumn( ...),
                                                                                                                                              > 🛾 HospitalDaolmpl.java
                                                                                         inverseJoinColumn = @JoinColumn(..))
                                                                                                                                              > 🗗 IHospitalDao.java
                                                                                                                                           in.pwskills.nitin.main
                                                                                                                                              > 🗾 MainApp.java
                                                                                                                                            > 🖶 in.pwskills.nitin.util
                                                                                                                                             hibernate.cfg.xml
                                                                                                                                           > 🛋 JRE System Library [JavaSE-17]
                                                                                                                                           > 🛋 Hibernate
                                                                                                                                           > 🛋 MySQL
                                                                                                                                           > 🛋 hikaricp
3. 1-1(BI)
      a. one-one (PK) [Both parent and child class would use same id values as pk]
      b. one-one (FK) [Both parent and child class are not ready to use same id values as pk]
 eg#1. Student(id) ======> LibraryMembership(id)
                                                                                                                    Annotations used are
                                                                          c1pk
        Person (id) ======> IncomeTaxFilling(id)
                                                                                                                     a. @OneToOne(...,mappedBy="")
b. @PrimaryKeyJoinColumn(,,)

    Hiberante-32-Association-Mapping-O2O-PK(BI)

     src
      in.pwskills.nitin.bean
         > 🗓 LibraryMembership.java
         > 🗵 Student.java
                                   In case of One-One mapping, by default fetch type will be "EAGER".
       in.pwskills.nitin.dao
                                   In case of Many-One or Many-Many by default fetch type will be "LAZY".
         > 🗗 ILibraryDao.java
         › LibraryDaolmpl.java
       in.pwskills.nitin.main
         > 🛭 MainApp.java
       in.pwskills.nitin.util
         > 🗓 HibernateUtil.java
        hibernate.cfg.xml
      > 🛋 Hibernate
      > 🛋 MySQL
     > 🛋 hikaricp

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src

                                                                             in.pwskills.nitin.bean
 1-1(FK)
                                                                               > 🛭 Passport.java
  eg: Person(adharNo) -----> PASSPORT(PassPortNo,adharNo)
                                                                               > 🗾 Person.java
                                                                              in.pwskills.nitin.dao
                                                                               > 🗗 IPassportDao.java
                  c1pk
                                                                               > 🛽 PassportDaolmpl.java

    in.pwskills.nitin.main

                                                                                > 🗾 MainApp.java
                                                                              in.pwskills.nitin.util
                                                                               › Il HibernateUtil.java
                                                                               hibernate.cfg.xml

→ JRE System Library [JavaSE-17]

                                                                             > 🛋 Hibernate
                                                                             > 🛋 MySQL
                                                                             > 🛋 hikaricp
                                      JOIN
                                                                 FULL JOIN
                                                                                                           (person)
                                 left
table
                                         right
table
                                                                                                                    sachin
                                                              table
                                                                                                         2 rcb
3 csk
                                                                                                                   kohli
                                                                                                           (phoneNo)
                                   LEFT JOIN
                                                                 RIGHT JOIN
                                                                                                     888999777 airtel
                                                                                                   2 777888999 jio
                                                                                                                       personal
                                         right
table
                                                                                                   3 999777888 jio
                                                                                                                       personal
                                                                                                   4 666888999 aircel
                                                                                                                       company
                                                                                                  5 666777888 vi
                                                                                                                      personal
                                                                                               6 77789989 vi
```

HQL JOINS => They are the implicit conditions that are given to common and uncommon data of DB table that are in relationship => HQL joins are similar to SQL-Joins a. Inner join b. left join c. right join d. full join 1. inner join :: common data(....) 2. left join :: 3 + common data(....) 1-3 3. right join :: 6 + common data(....) 4. full join :: 3, commondata(...),6 2-4 String HQL_INNER_JOIN="select per.pid,per.pname,per.paddress, parent attributes person phoneno num.regNo,num.mobileNo,num.type,num.provider | child attributes from Person per //parent Hiberante-34-HQL-JOIN-O2M(BI) inner join //type of join 🗸 🕭 src per.numbers num "; //child in.pwskills.nitin.bean > 🚺 Person.java > • PhoneNumber.java in.pwskills.nitin.dao String HQL_RIGHT_JOIN="select > 🗗 IPersonDao.java num.regNo,num.mobileNo,num.type,num.provider, parent attributes per.pid,per.pname,per.paddress child attributes PersonDaolmpl.java in.pwskills.nitin.main in > 🗓 MainApp.java from PhoneNumber num //parent > # in.pwskills.nitin.util inner join ← //type of join hibernate.cfg.xml num.person per " //child > 🛋 JRE System Library [JavaSE-17] > 🛋 Hibernate > 🛋 MySQL > 🛋 hikaricp