Name:- Aishwarya kamane
Hibernate Programmes

- Pom.xml

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
   <modelVersion>4.0.0</modelVersion>
   <groupId>com.app</groupId>
   <artifactId>Hibernate-OneToMany</artifactId>
   <version>0.0.1-SNAPSHOT</version>
     <dependencies>
    <!-- https://mvnrepository.com/artifact/org.hibernate.orm/hibernate-core
-->
<dependency>
       <groupId>org.hibernate.orm</groupId>
       <artifactId>hibernate-core</artifactId>
       <version>6.0.0.Alpha7</version>
</dependency>
<!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
       <groupId>mysql</groupId>
       <artifactId>mysql-connector-java</artifactId>
       <version>8.0.28</version>
</dependency>
   </dependencies>
       </project>
```

- **conf.xml**

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
   <modelVersion>4.0.0</modelVersion>
   <groupId>com.app</groupId>
   <artifactId>Hibernate-OneToMany</artifactId>
   <version>0.0.1-SNAPSHOT</version>
     <dependencies>
    <!-- https://mvnrepository.com/artifact/org.hibernate.orm/hibernate-core
-->
<dependency>
       <groupId>org.hibernate.orm</groupId>
       <artifactId>hibernate-core</artifactId>
       <version>6.0.0.Alpha7</version>
</dependency>
<!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
       <groupId>mysql</groupId>
 <artifactId>mysql-connector-java</artifactId>
 <version>8.0.28</version>
</dependency>
   </dependencies>
</project>
```

➢ com.app-OneToOne

- **Company.java**

```java
package com.app;

import java.util.Set;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.JoinTable;
import javax.persistence.OneToMany;
import javax.persistence.OneToOne;
import org.hibernate.annotations.Fetch;
import org.hibernate.annotations.FetchMode;

@Entity
public class Company {
@Id
@Column
 private int cid;
 private String cname;
 private String caddress;
 @OneToOne(cascade = CascadeType.ALL)
 @JoinTable(name = "Product_Company",joinColumns = @JoinColumn(name="id"),
 inverseJoinColumns = @JoinColumn(name="Company_id"))
public int getCid() {
                return cid;
}
public void setCid(int cid) {
                this.cid = cid;
}
public String getCname() {
                return cname;
}
public void setCname(String cname) {
                this.cname = cname;
}
public String getCaddress() {
                return caddress;
}
public void setCaddress(String caddress) {
                this.caddress = caddress;   }   }
```

- **Product_p.java**

```java
package com.app;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.Id;

@Entity
public class Product_p {
    @Id
    @Column (name="ProductId")
    private int pid;
    private String name;
    private String ptype;
    private Double price;
    public int getPid() {
        return pid;
    }
    public void setPid(int pid) {
        this.pid = pid;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public String getPtype() {
        return ptype;
    }
    public void setPtype(String ptype) {
        this.ptype = ptype;
    }
    public Double getPrice() {
        return price;
    }
    public void setPrice(Double price) {
        this.price = price;
    }
}
```

- **Client.java**

```java
package com.app;

import java.util.HashSet;
import java.util.Set;
import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;
import org.hibernate.cfg.Configuration;

public class Client {
```
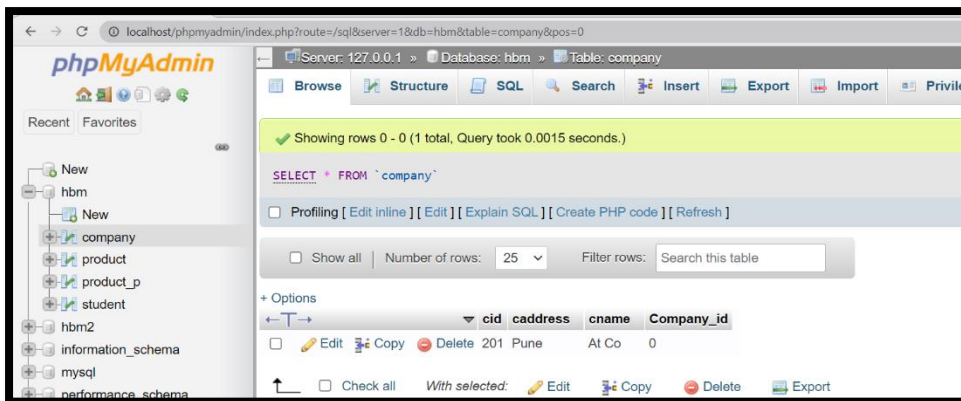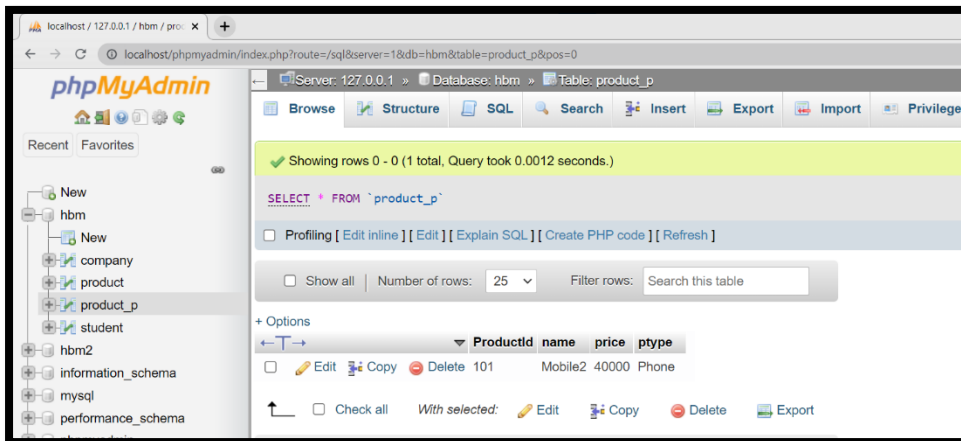
```java
public static void main(String[] args) {
        Configuration config=new Configuration().configure("Hibernate-cfg.xml");
        SessionFactory factory=config.buildSessionFactory();
        Session session= factory.openSession();
        Transaction transaction=session.beginTransaction();
        Product_p pr=new Product_p();
        Company cp=new Company();
        pr.setPid(102);
        pr.setName("Mobile2");
        pr.setPtype("Phone");
        pr.setPrice( 40000d);
        session.persist(pr);

        //also insert this
        cp.setCid(201);
        cp.setCname("At Co");
        cp.setCaddress("Pune");
        session.save(pr);


        session.save (cp);
        transaction.commit();
        session.close();
        System.out.println("Success");
        }      }
```

Output:-

➢ OneToMany

• Company

```
package com.app;

import java.util.Set;
import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.JoinTable;
import javax.persistence.OneToMany;
import javax.persistence.OneToOne;
import org.hibernate.annotations.Fetch;
import org.hibernate.annotations.FetchMode;

@Entity
public class Company {
                @Id
                @Column

 private int cid;
 private String cname;
 private String caddress;
public int getCid() {
                return cid;
}
public void setCid(int cid) {
                this.cid = cid;
}
public String getCname() {
                return cname;
}
public void setCname(String cname) {
                this.cname = cname;
}
public String getCaddress() {
                return caddress;
}
public void setCaddress(String caddress) {
                this.caddress = caddress;
}
@OneToMany(targetEntity = Product_p.class, cascade = CascadeType.ALL,fetch = FetchType.EAGER,
orphanRemoval = true)
@JoinColumn(name = "unid",referencedColumnName = "cid")
@Fetch(FetchMode.JOIN)
private Set<Product_p> Product;
public Set<Product_p> getProduct() {
                return Product;
}
public void setProduct(Set<Product_p> product) {
                Product = product;        }                }
```

- **Product_p**

```java
package com.app;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.Id;

@Entity
public class Product_p {
	@Id
	@Column (name="ProductId")
	private int pid;
	private String name;
	private String ptype;
	private Double price;
	public int getPid() {
		return pid;
	}
	public void setPid(int pid) {
		this.pid = pid;
	}
	public String getName() {
		return name;
	}
	public void setName(String name) {
		this.name = name;
	}
	public String getPtype() {
		return ptype;
	}
	public void setPtype(String ptype) {
		this.ptype = ptype;
	}
	public Double getPrice() {
		return price;
	}
	public void setPrice(Double price) {
		this.price = price;
	}
}
```

- **Client**

```java
package com.app;

import java.util.HashSet;
import java.util.Set;
import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;
import org.hibernate.cfg.Configuration;

public class Client {
```
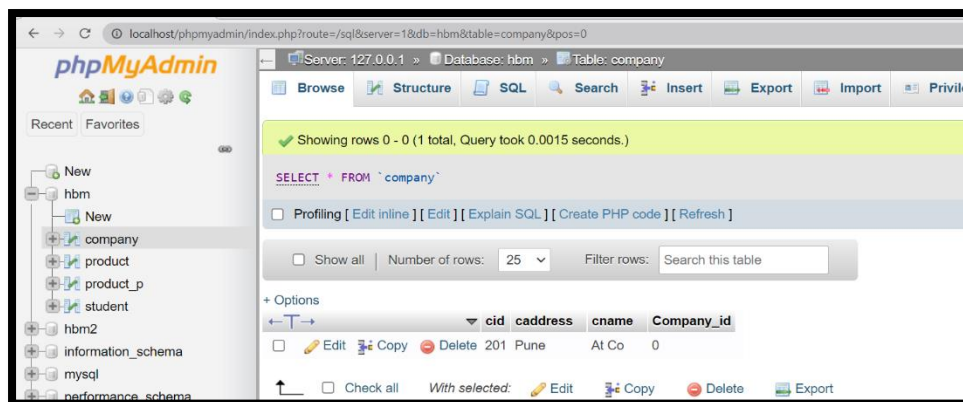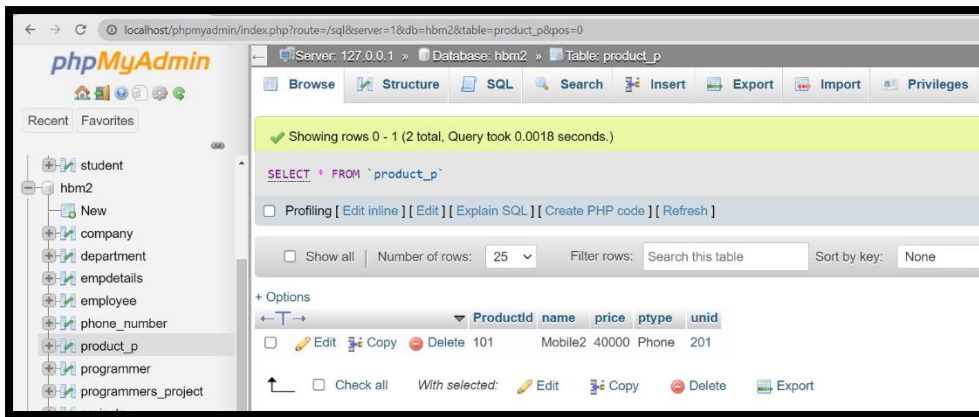
```java
public static void main(String[] args) {
        Configuration config=new Configuration().configure("Hibernate-cfg.xml");
        SessionFactory factory=config.buildSessionFactory();
        Session session= factory.openSession();
        Transaction transaction=session.beginTransaction();
        Product_p pr=new Product_p();
        Company cp=new Company();
        pr.setPid(104);
        pr.setName("Mobile2");
        pr.setPtype("Phone");
        pr.setPrice( 40000d);
        session.persist(pr);

        //also insert this
        Set<Product_p>product_ps=new HashSet<Product_p>();
        product_ps.add(pr);
        cp.setCid(201);
        cp.setCname("At Co");
        cp.setCaddress("Pune");
        cp.setProduct(product_ps);
        session.save (cp);
        transaction.commit();
        session.close();
        System.out.println("Success");
    }
}
```

Output:

> ## Com.app.bean
>> ### • Department.java

```java
package com.app.model;

import javax.persistence.Entity;
import javax.persistence.Id;

@Entity
public class Department {
        @Id
        private int deptno;
        private String deptName;
        private String deptHead;
        public int getDeptno() {
                return deptno;
        }
        public void setDeptno(int deptno) {
                this.deptno = deptno;
        }
        public String getDeptName() {
                return deptName;
        }
        public void setDeptName(String deptName) {
                this.deptName = deptName;
        }
        public String getDeptHead() {
                return deptHead;
        }
        public void setDeptHead(String deptHead) {
                this.deptHead = deptHead;
        }
        public Department(int deptno, String deptName, String deptHead) {
                super();
                this.deptno = deptno;
                this.deptName = deptName;
                this.deptHead = deptHead;
        }
}
```

- **EMPDeatils.java**

```java
package com.app.model;

import javax.persistence.CascadeType;
import javax.persistence.Entity;
import javax.persistence.FetchType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;

@Entity
public class EmpDetails {
        @Id
        private int eno;
        private String ename;
        private long salary;
        @ManyToOne(targetEntity = Department.class,
                        cascade = CascadeType.ALL,
                        fetch = FetchType.EAGER)
        @JoinColumn(name = "deptno",referencedColumnName = "deptno")
        private Department;
        public int getEno() {
                return eno;
        }
        public void setEno(int eno) {
                this.eno = eno;
        }
        public String getEname() {
                return ename;
        }
        public void setEname(String ename) {
                this.ename = ename;
        }
        public long getSalary() {
                return salary;
        }
        public void setSalary(long salary) {
                this.salary = salary;
        }
        public Department getDepartment() {
                return department;
        }
        public void setDepartment(Department department) {
                this.department = department;
        }
        public EmpDetails(int eno, String ename, long salary, Department department) {
                super();
                this.eno = eno;
```

```
                    this.ename = ename;
                    this.salary = salary;
                    this.department = department;
              }
}
```

➢ **com.app.factory**
• MenyToOneFactory

```java
package com.app.factory;

import javax.persistence.ManyToOne;
import com.app.dao.ManyToOneDao;
import com.app.dao.impl.ManyToOneImp;

public class ManyToOneFactory {
 public static ManyToOneDao getInstance() {
              return new ManyToOneImp();
 }
 public static  ManyToOneDao getManyInstance() {
               return new ManyToOneImp();
 }
}
```

➢ **com.app.dao**

```java
package com.app.dao;

public interface ManyToOneDao {
        void addEmployeeWithDept();
        }
```

➢ **com.app.ManyToOneImp**

```java
package com.app.dao.impl;
import org.hibernate.Session;
import org.hibernate.Transaction;
import com.app.dao.ManyToOneDao;
import com.app.model.Department;
import com.app.model.EmpDetails;
import com.app.util.UtilityClass;

public class ManyToOneImp implements ManyToOneDao {
     public void addEmployeeWithDept() {
              // TODO Auto-generated method stub
              Session session=UtilityClass.getSession();
              Department dept=new Department(1, "HR", "Rinku");
              Department dept1=new Department(2, "Developer", "Abhijeet");
              EmpDetails emp1=new EmpDetails(5001, "Abhijeet", 50099, dept);
              EmpDetails emp2=new EmpDetails(5005,"Vishal",6790,dept1);
              Transaction tx=session.beginTransaction();
              //session.saveOrUpdate(emp1);
              session.update(emp2);
```

```
                        tx.commit();
                        UtilityClass.cloesSession();
                }
}
```

➢ com.app.util

```java
package com.app.util;

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;
import net.bytebuddy.asm.Advice.Return;

public class UtilityClass {
private static SessionFactory factory;
static {
        try {
                factory=new Configuration().configure("Hibernate-cfg.xml").buildSessionFactory();
                /*Configuration configuration=new Configuration();
                *configuration.configure("Hibernate-cfg.xml");
                *factory=configuration.buildSessionFactory();
                */
        }catch (Exception e) {
                // TODO: handle exception
                e.printStackTrace();
        }
}
static ThreadLocal<Session> tl=new ThreadLocal();
static Session session=null;
public static Session getSession() {
        try {
                if (tl.get()==null) {
                        session=factory.openSession();
                        tl.set(session);
                        return session;
                }
                        else {
                                return tl.get();
                }

}
        catch (Exception e) {
        // TODO: handle exception
        return null;
}
}
public static void cloesSession() {
        try {
                session.close();
        } catch (Exception e) {
                // TODO: handle exception
                e.printStackTrace();
        }     }          }
```

> **com.app.Client**

package com.app.client;

import javax.persistence.ManyToOne;
import com.app.dao.ManyToOneDao;
import com.app.factory.ManyToOneFactory;

public class Test1 {

        public static void main(String[] args) {
                // TODO Auto-generated method stub
                ManyToOneDao dao= ManyToOneFactory.getInstance();
                dao.addEmployeeWithDept();
                System.out.println("Success");

        }

}

Output:-