```
                1..1
class Product {
  int productId;
  String productName;
  String description;
  String category;
  double price;

  Manufacturer manufacturer;
  // accessors
}
```

```
*..1
class Manufacturer {
  int manufacturerId;
  String businessName;
  LocalDate estDate;
  String headquatres;
  String contactNo;
  String emailAddress;

  Set<Product> products;
  // accessors
}
```

```
product
product_id (pk)
product_nm
description
category_nm
price
manufacturer_id (fk) (nullable)
```

```
manufacturer
manufacturer_id (pk)
business_nm
est_dt
headquatres
contact_no
email_address
```

```
session.save(manufacturer);
```

In the above example we have Product and Manufacturer entity classes with association relationship between them indicating
1. A Product is manufactured by an Manufacturer
2. A Manufacturer manufactures many products

While persisting the data of these entity classes into the relational database we not only wanted to persist their data, we want to persist the association relationship between these classes into the underlying table relationship, so that we can fetch the data back out of the relationship in conducting the business operations.

How to model the association relationship between the entity classes into the underlying table relationship?
There are #2 factors we need to take into account in modeling an association relationship between the entity classes into table relationships
1. read the cardinality of the association relationship between the classes from both the sides based on which we can decide how to map the relationship interms of table model
2. identify it is uni-directional or bi-directionaly based on that we can understand how to mark the foriegn key column in the child table

Here we modelled the association relationship between the Product and Manufacturer entity classes into table relationship as one-to-many and many-to-one based on this let us understand how to perform persistence operations of these objects into the underlying database table.

#1. How to store the data of these entity class objects into the database tables?
1.1 Product entity object
directly store Product entity object and its attributes into the corresponding columns of the product table. while persisting the data, store manufacturer_id the foreign key column as NULL since there is no association between Product to Manufacturer. So we cannot determine for a Product who is the manufacturer by looking at the Product class object.

1.2 Manufacturer entity object
Manufacturer entity object holds Set<Product> products indicating all these products are manufactured by this manufacturer.

So inorder to persist the Manufacturer entity object into the underlying database we need to perform below operations:
a) store Manufacturer entity object and its attributes of data into the corresponding columns of the manufacturer table
b) there is an associated entity object Set<Product> products indicating all the these products are manufactured by this manufacturer, we should persiste all these products into product table. but while persisting the product entity objects in the set we need to store fk column manufacturer_id as NULL because product doesnt have association with manufacturer

c) upon persisting the Set<Product> products; indicating the association “stating: these products are manufactured by this manufacturer” we need to update for each product entity object in the set the corresponding fk column of the record with the pk of manufacturer object (manufacturerId) indicating all these products manufactured by this manufacturer

So we need to perform #3 operations.

How to query the entity object along with their associated objects from the database table based on the mapping strategy:

1. How to query an Product entity class object from the database table?
since the Product entity class doesnt have any association relationship, we can directly query the data for the entity object from the corresponding table of the class.

2. How to query Manufacturer entity object from the database tables?
A Manufacturer has an association with Product entity class, indicating these are the Set<Product> products manufactured by the manufacturer.
We can query the Manufacturer data directly from manufacturer table, but along with that we should be able fetch and populate all the products (Set) manufactured by this manufacturer as well.

To do this we need to take my (manufacturer) table primary key column and join with their (product) table fk column to fetch the Set<Product> matching products manufactured by this manufacturer.

In-Short:
1. persisting: we need to store my table pk column value as an fk column in other table to store the association
2. querying: take my table pk column and join with fk column of other table to fetch the associated objects