class Product {
 int productNo;
 String productName;
 String description;
 String category;
 double price;

@ManyToOne
 @JoinColumn(name="manufacturer_no")
 Manufacturer manufacturer;
}

class Manufacturer {
 int manufacturerNo;
 String manufacturerName;
 LocalDate establishedDate;
 String contactNo;
 String emailAddress;

@OneToMany
 @JoinColumn(name="manufacturer_no")
 Set<Product> products;

product_no (pk)
product_nm
description
category_nm
price
manufacturer_no (pk)
manufacturer_nm
established_dt
contact_no
email_address

since we have bi-directional association relationship being represented between both the entities, we need to write mapping information mapping from both the ends of the entities.

Incase of bi-directional association, the relationship column (fk column) will be persisted twice as below, which is 1. once while persisting the product, it is associated with manufacturer. so representing the association of product with that manufacturer the manufacturer no (fk) column will be persisted

2. while persisting manufacturer entity as we have associated Set of products indicating these are manufactured by this manufacturer, the fk column representing the manufacturer_no will be updated for each product

Product product = new Product();

// populate product data
product.setManufacturer(manufacturer);
save(product); // along with product manufacturer_no will be persisted

#2

Manufacturer manufacturer1 = new Manufacturer();

// populate data
manufacturer1.setProducts(products);
save(manufacturer); // for all the products in association the fk column manufacturer_no will be updated

In the above example, the manufacturer_no foreign key column is marked as not-null, this means

1. always while persisting an product, manufacturer is mandatory and the relationship column is persisted

2. again if we associate products to an manufacturer and persist it, representing the set of associated products, the product table manufacturer_no will be updated for all those products in association

hence the foreign key column is persisted twice from both the sides, this is detected by hibernate/jpa and will throw an exception indicating duplicate foreign key column persistence