CS544 EA

Hibernate

Association: Bi-Directional

ManyToOne / OneToMany

- Bi-directional OneToMany == ManyToOne
  - Needs owning side → **mappedBy()**

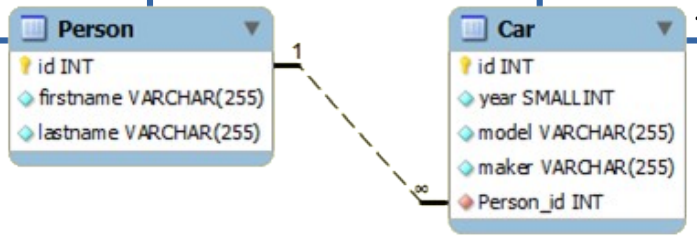
```java
@Entity
public class Person {
	@Id
	@GeneratedValue
	private Long id;
	private String firstname;
	private String lastname;
	@OneToMany(mappedBy="owner")
	private List<Car> cars =
		new ArrayList<>();

	...
```

Name of property on other side that has the mapping

```java
@Entity
public class Car {
	@Id
	@GeneratedValue
	private Long id;
	private short year;
	private String model;
	private String maker;
	@ManyToOne
	private Person owner;

	.
```



Which Side?

- mappedBy() says other side mapped this association
  - Gives up control of the association
  - Says that the **other side is the owning side**

- For Bi-Directional OneToMany / ManyToOne:
  - Only @OneToMany has mappedBy() option

@ManyToOne
cannot say mappedBy()
Even if it wanted to!

Side with the FK,
Natural owner
of the association

Join Table

- You can use a Join Table
  - Annotation has to be on @ManyToOne

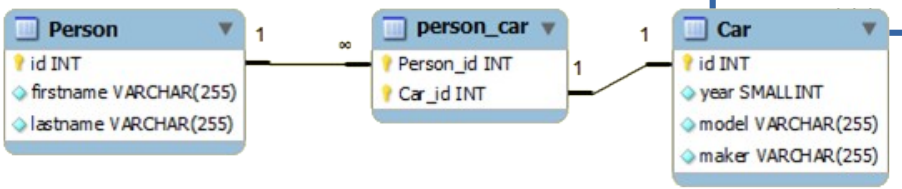
```java
@Entity
public class Person {
	@Id
	@GeneratedValue
	private Long id;
	private String firstname;
	private String lastname;
	@OneToMany(mappedBy="owner")
	private List<Car> cars =
		new ArrayList<>();

	...
```

Because of mappedBy() extra mapping annotations on this side are ignored

Only on this side do extra mapping annotations work

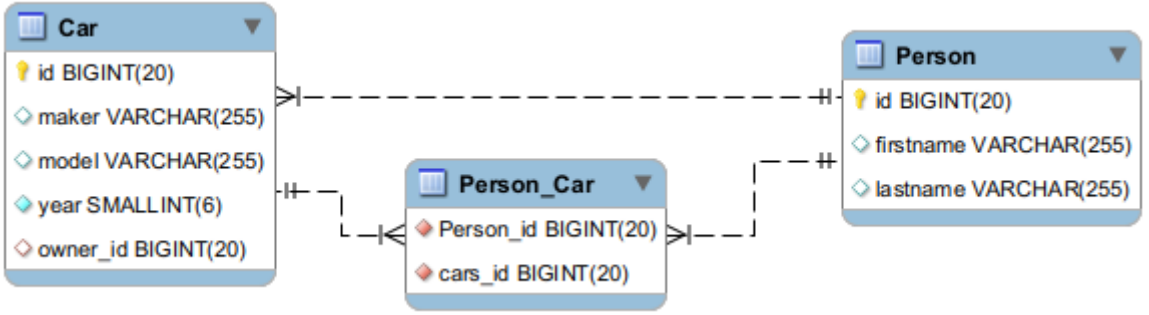
```java
@Entity
public class Car {
	@Id
	@GeneratedValue
	private Long id;
	private short year;
	private String model;
	private String maker;
	@ManyToOne
	@JoinTable(name="person_car")
	private Person owner;
```



In this situation it will not infer a name – you have to **specify** it!

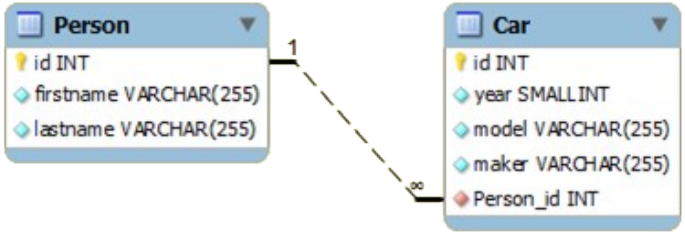
No mappedBy()

- What happens if you forget mappedBy()?
  - 2 uni-directional associations
  - Uni-directional @ManyToOne uses FK
  - Uni-directional @OneToMany uses Join Table



JoinColumn

- What if you forget mappedBy()
  - But specify @JoinColumn on @OneToMany
  - No join table, schema looks okay



- Both sides will update the one FK
  - Creating a **race condition** (not sure which one wins)
  - Bad programming!