



CS544 EA

Hibernate

Collection: Bag

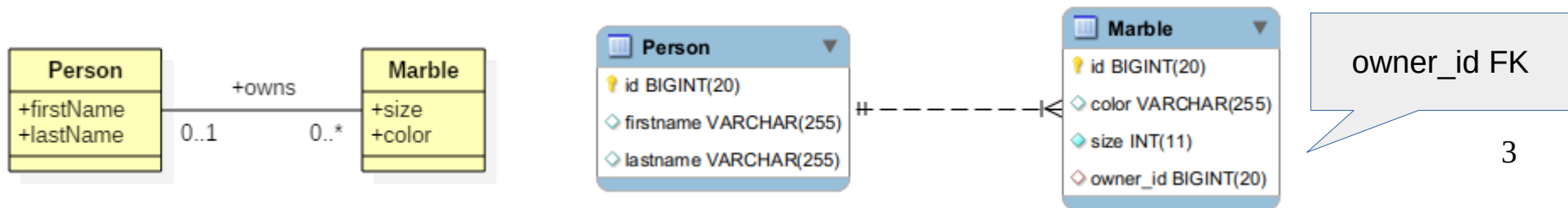
# Bag

- The **most basic** collection is a bag
  - It is allowed to contain duplicates
  - It has no built-in order (can use @OrderBy)
- Like a bag of marbles
  - May **contain duplicates**
  - **No order**, although can be ordered



# Bag Implementation

- **java.util.Collection** is a bag interface
- JPA also treats **java.util.List** as a bag
  - Java has no official bag implementation
- Bags are **non-indexed** collections
  - DB can implement it using a FK, no additional index



# Code for Bag

- `java.util.Collection` maps as **Bag**

```
@Entity
public class Person {
    @Id
    @GeneratedValue
    private Long id;
    private String firstname;
    private String lastname;
    @OneToMany(mappedBy="owner")
    private Collection<Marble> marbles
        = new ArrayList<>();
    ...
}
```

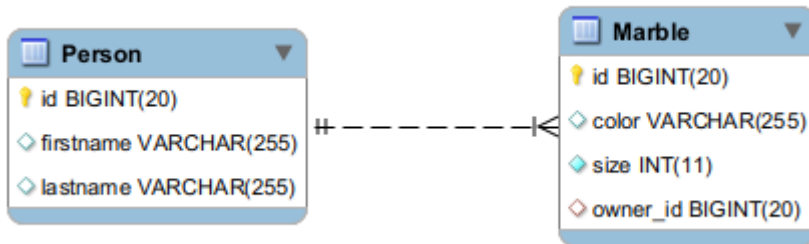
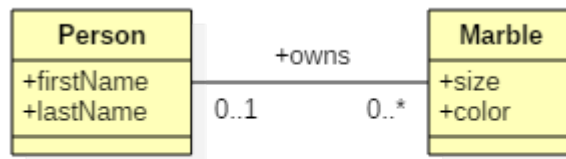
Collection maps  
as a Bag

Used ArrayList  
since no official  
Bag implementation.

Remember: Hibernate  
will replace with its  
own implementation

```
@Entity
public class Marble {
    @Id
    @GeneratedValue
    private Long id;
    private int size;
    private String color;
    @ManyToOne
    private Person owner;
}
```

Made this association  
bi-directional  
Uni-directional also works



# Code for Bag

- `java.util.List` maps as **Bag**

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

List also maps  
as a Bag

```
@Entity
public class Marble {
    @Id
    @GeneratedValue
    private Long id;
    private int size;
    private String color;
    @ManyToOne
    private Person owner;
}
```

