

# Mapping Inheritance



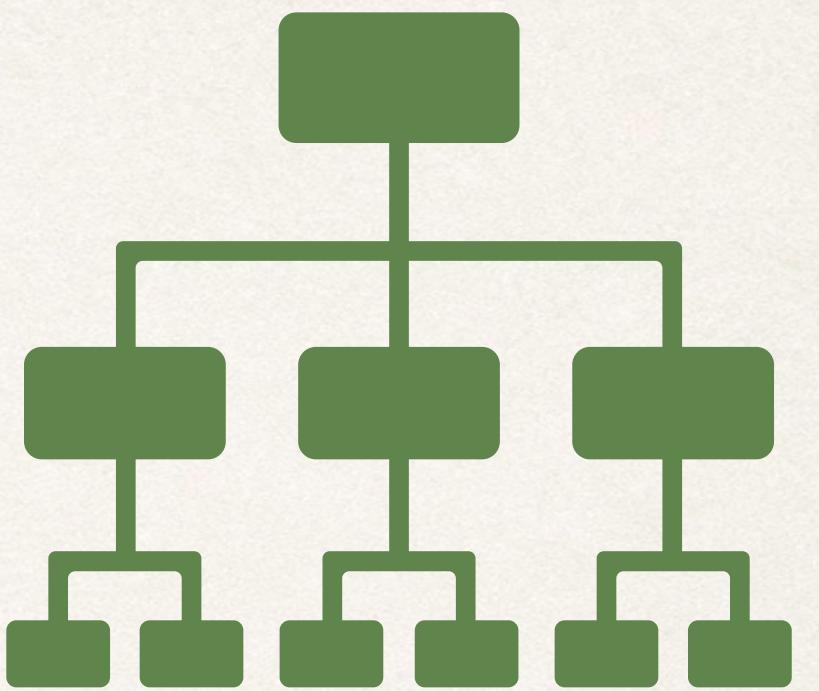
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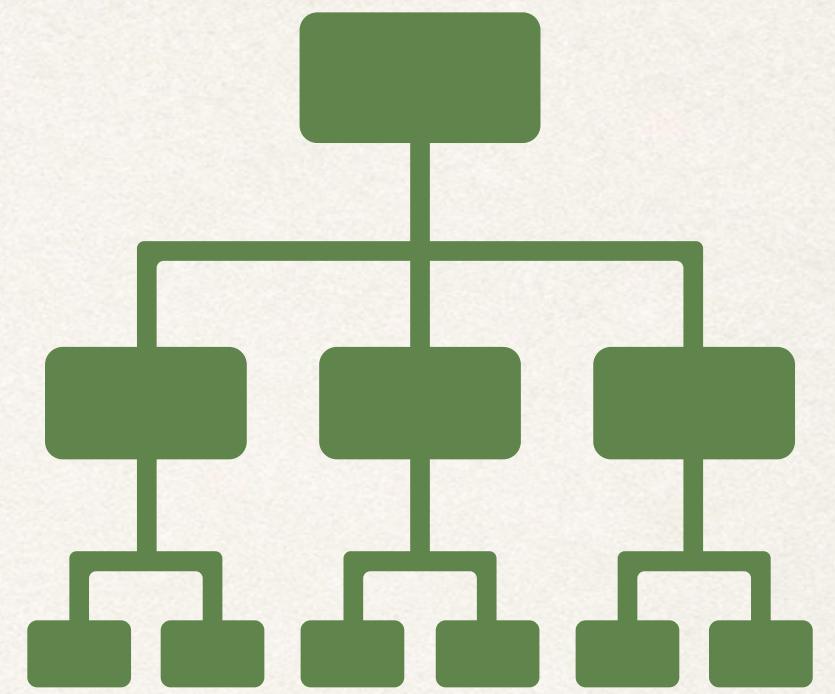
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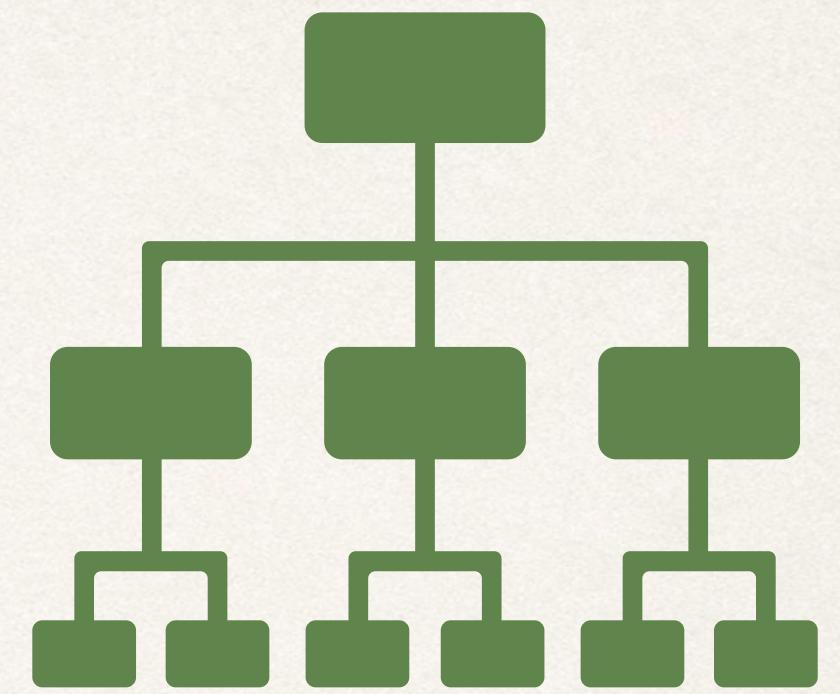
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  - Subclasses can inherit common data from superclass



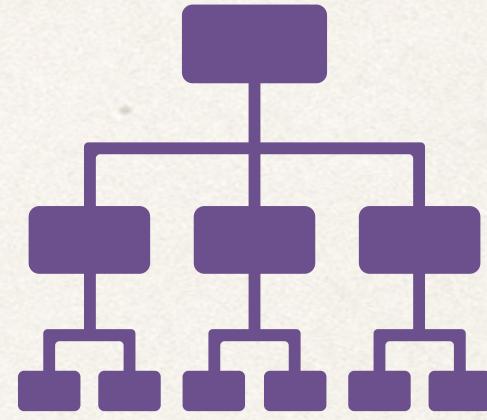
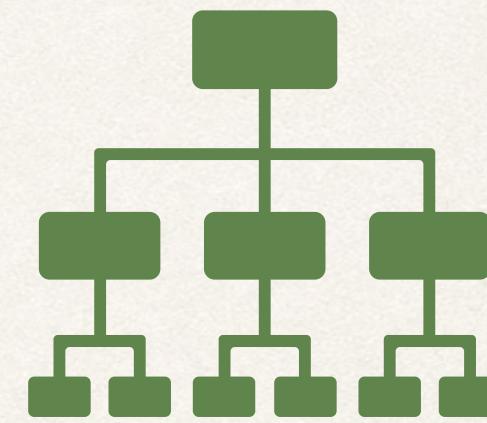
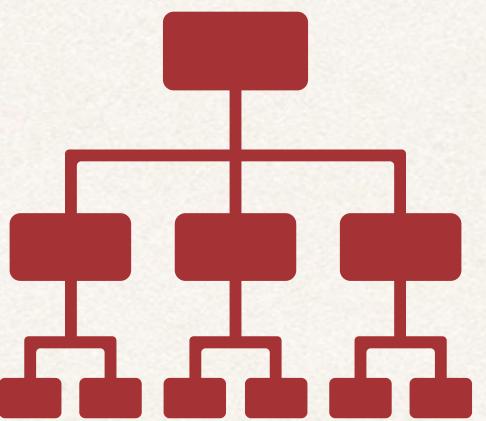
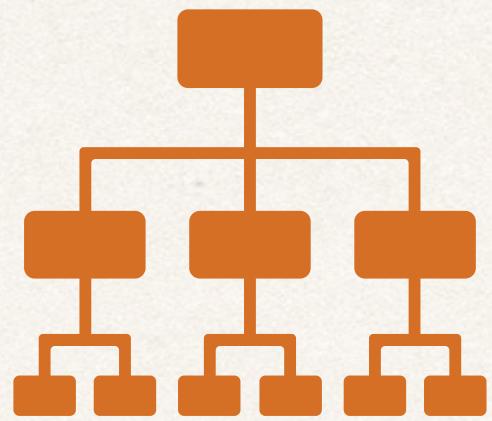
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  - Create a superclass that has common data
  - Subclasses can inherit common data from superclass
  - Great example of reuse



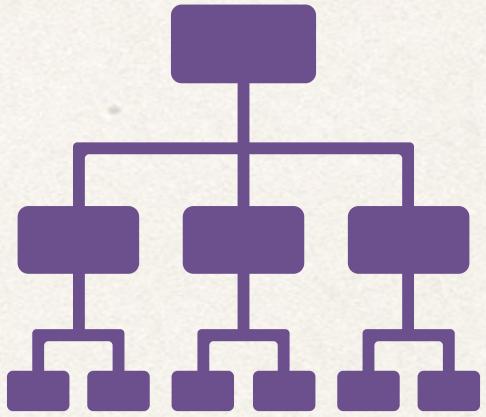
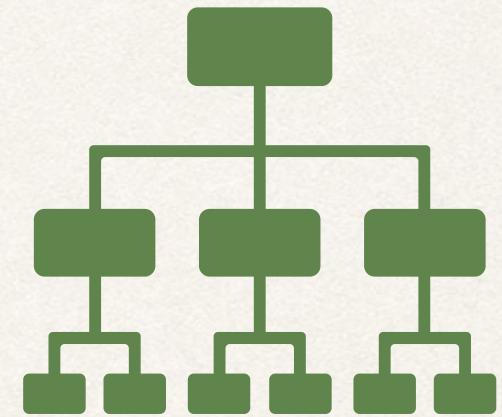
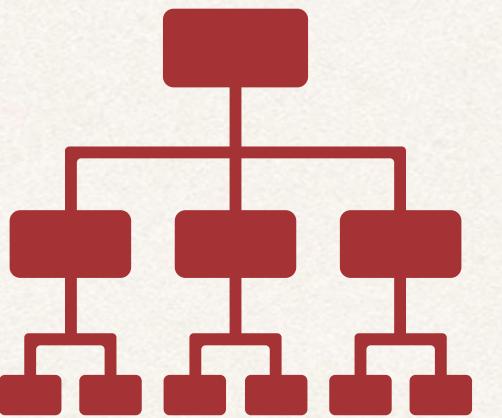
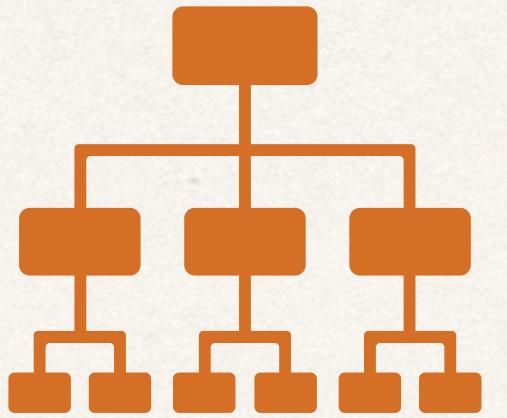
# Hibernate - How to Map Inheritance?

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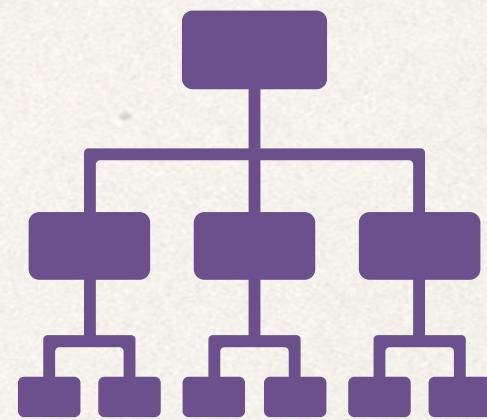
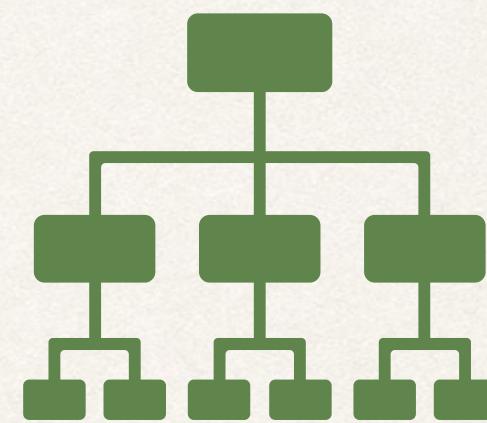
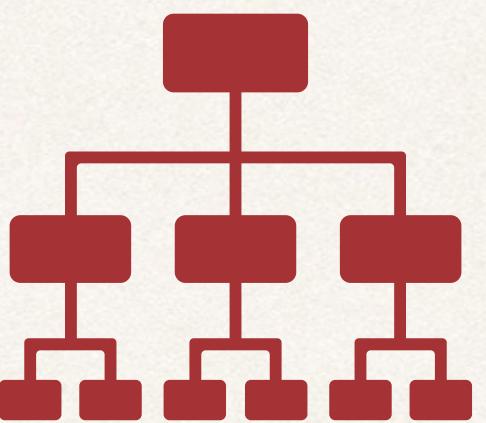
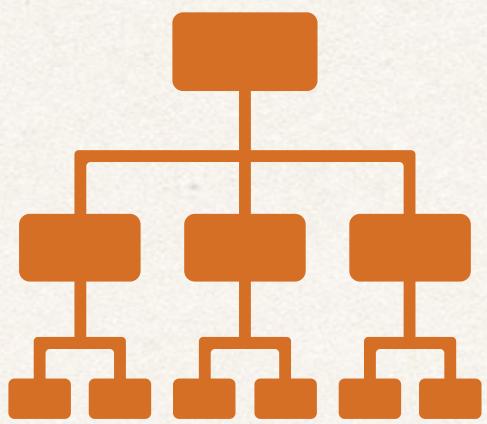
# Hibernate - How to Map Inheritance?

- Can we map all entities to a single table?



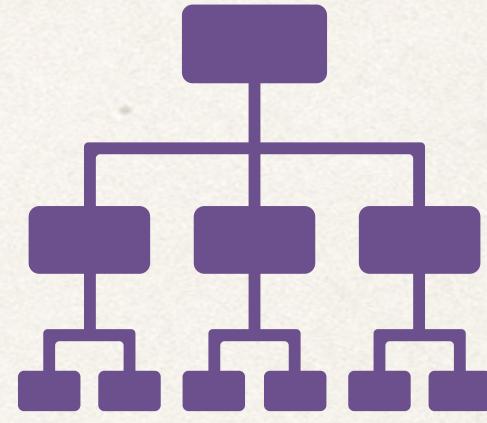
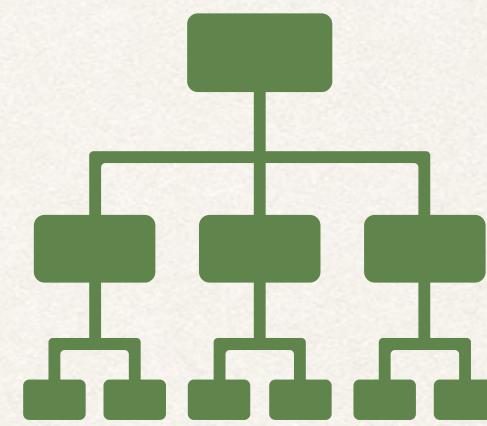
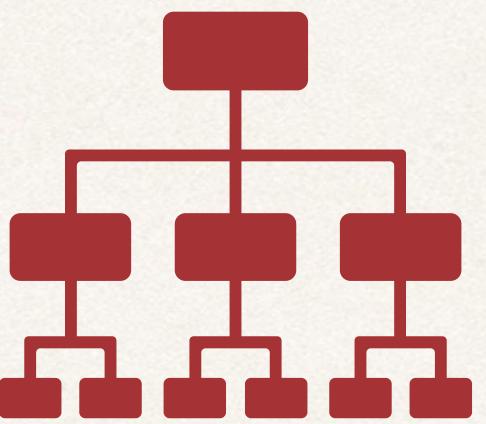
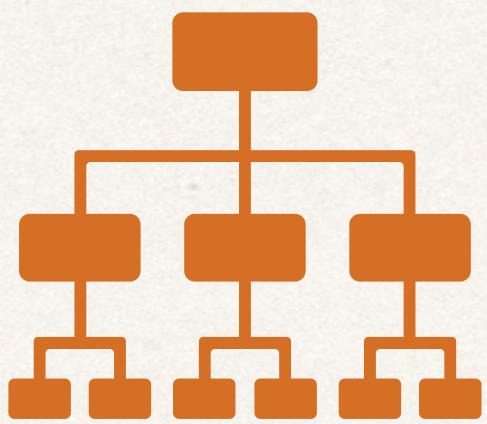
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- Can we map all entities to a single table?
- Should we have a table for each entity?



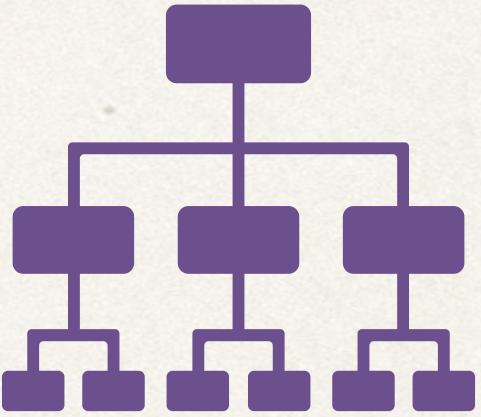
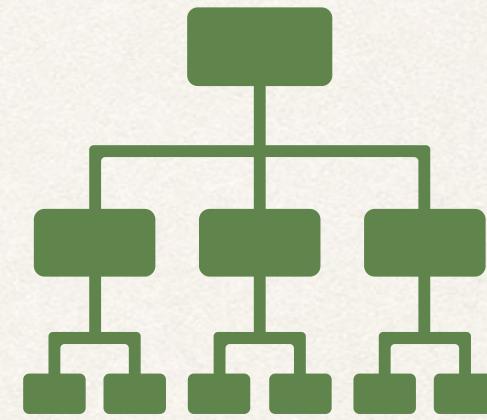
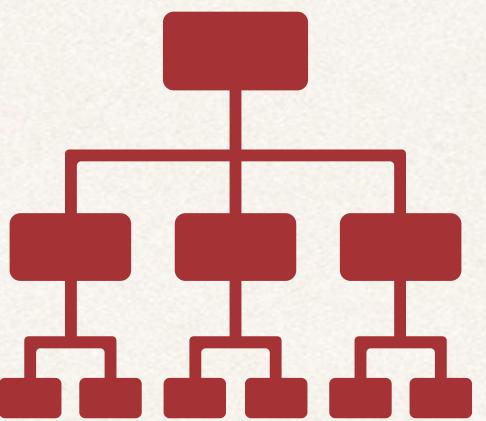
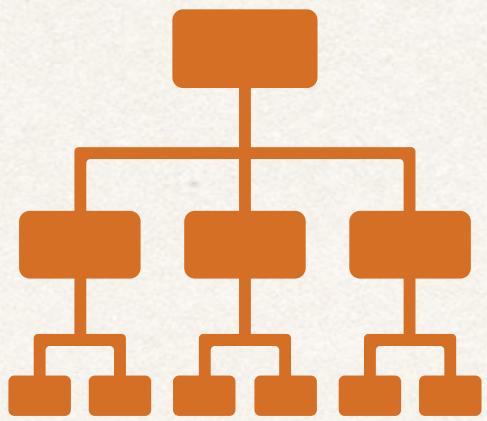
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- Can we map all entities to a single table?
- Should we have a table for each entity?
- Can we join the tables?



# Hibernate - How to Map Inheritance?

- Can we map all entities to a single table?
- Should we have a table for each entity?
- Can we join the tables?
- Do we duplicate fields in every table?







# Warning



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When using ORM, mapping deep inheritance relationships



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When using ORM, mapping deep inheritance relationships

- May increase the complexity of your application



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When using ORM, mapping deep inheritance relationships

- May increase the complexity of your application
- May adversely affect your application's performance

# Inheritance Mapping Strategies

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- Single table

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- Table per class

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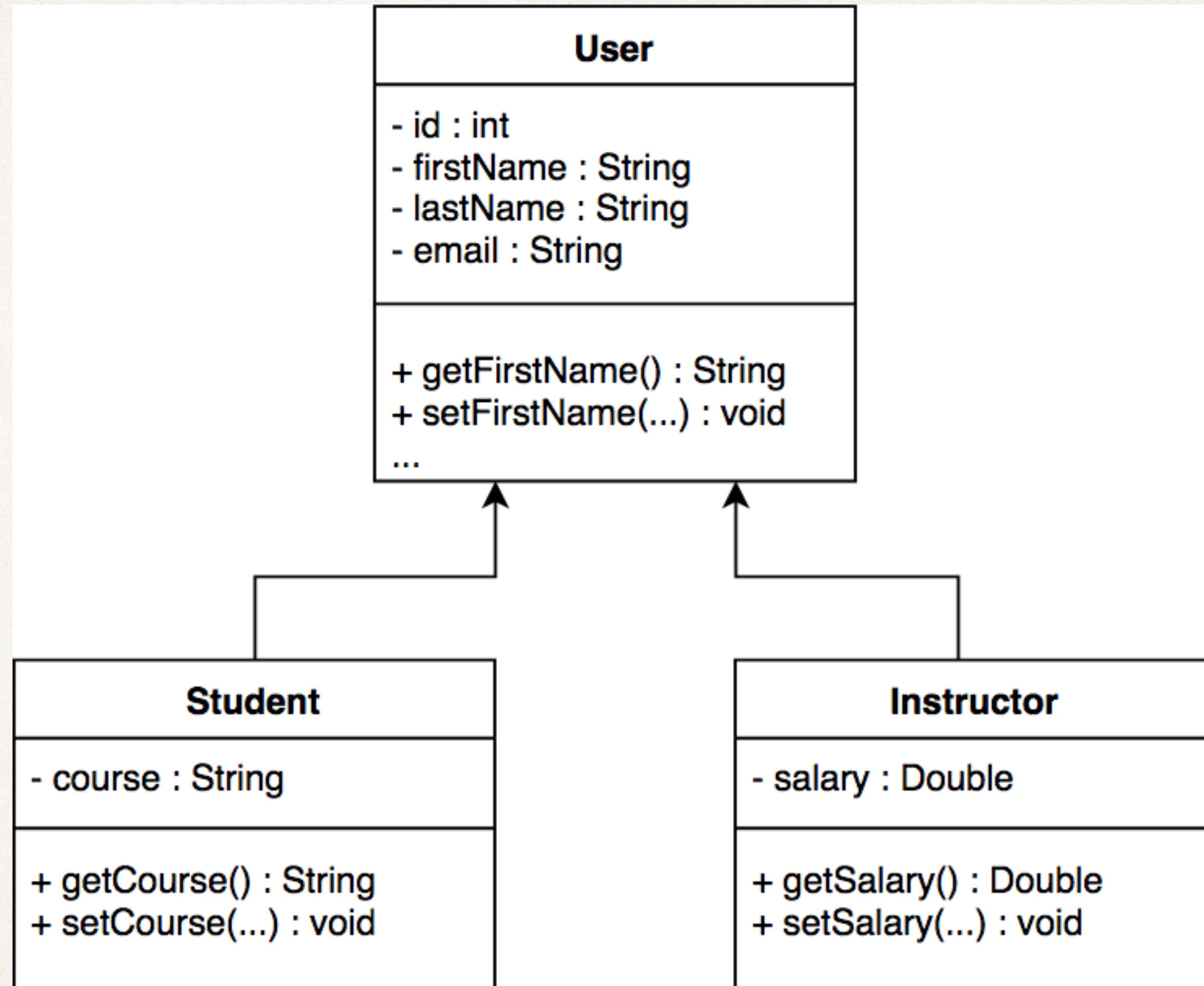
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- Table per class
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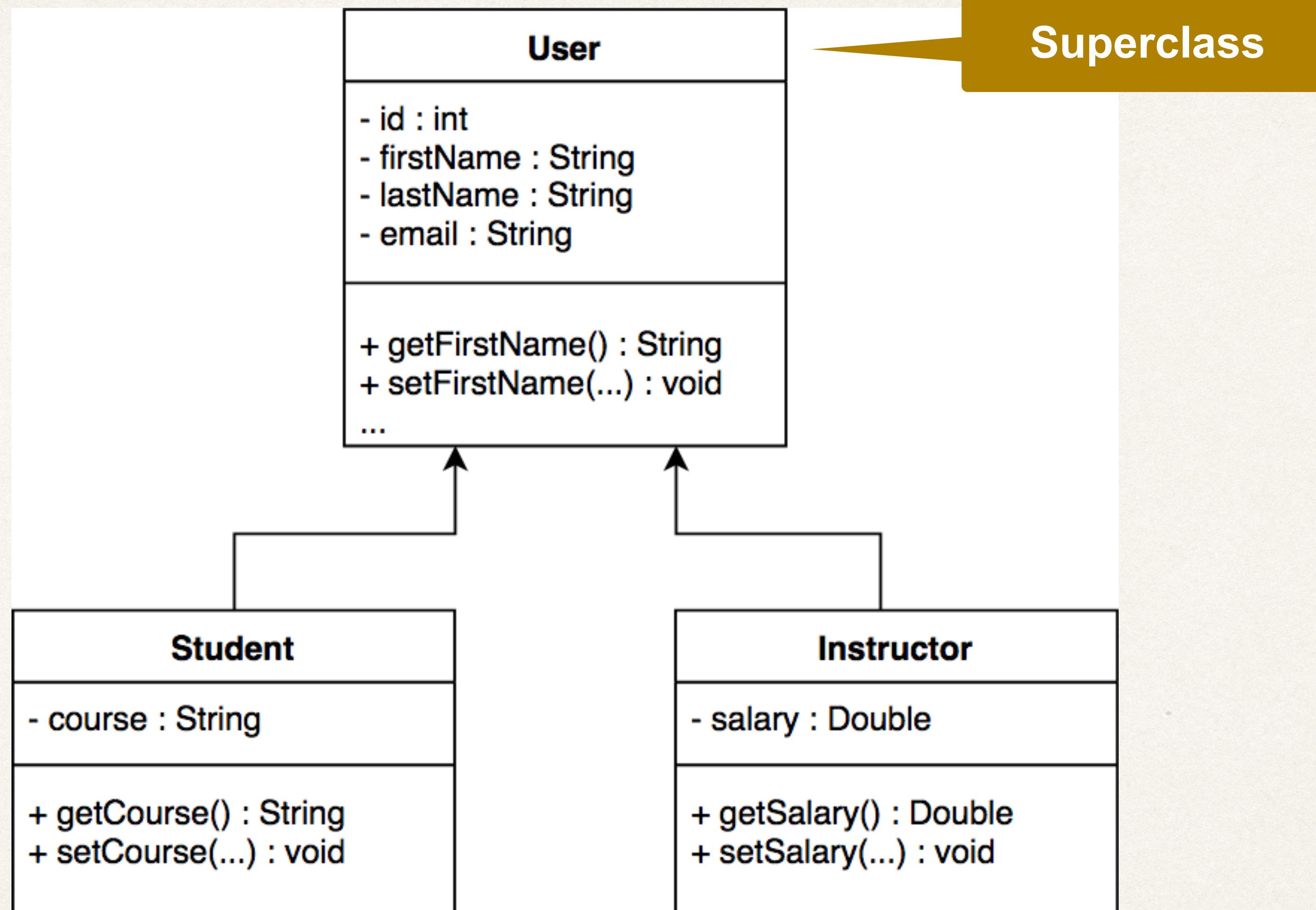
- Single table
- Table per class
- Joined table
- Mapped superclass

# Use Case

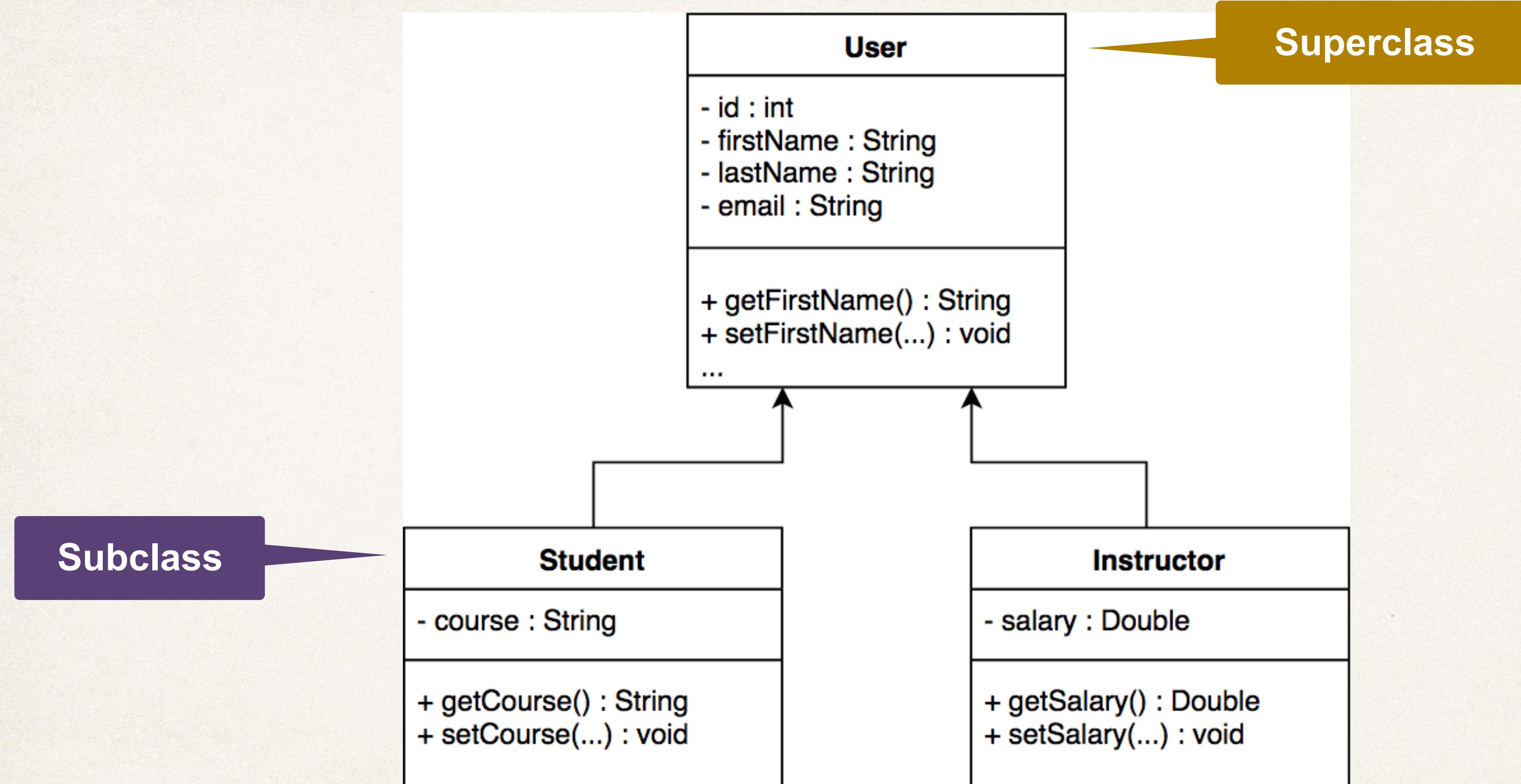
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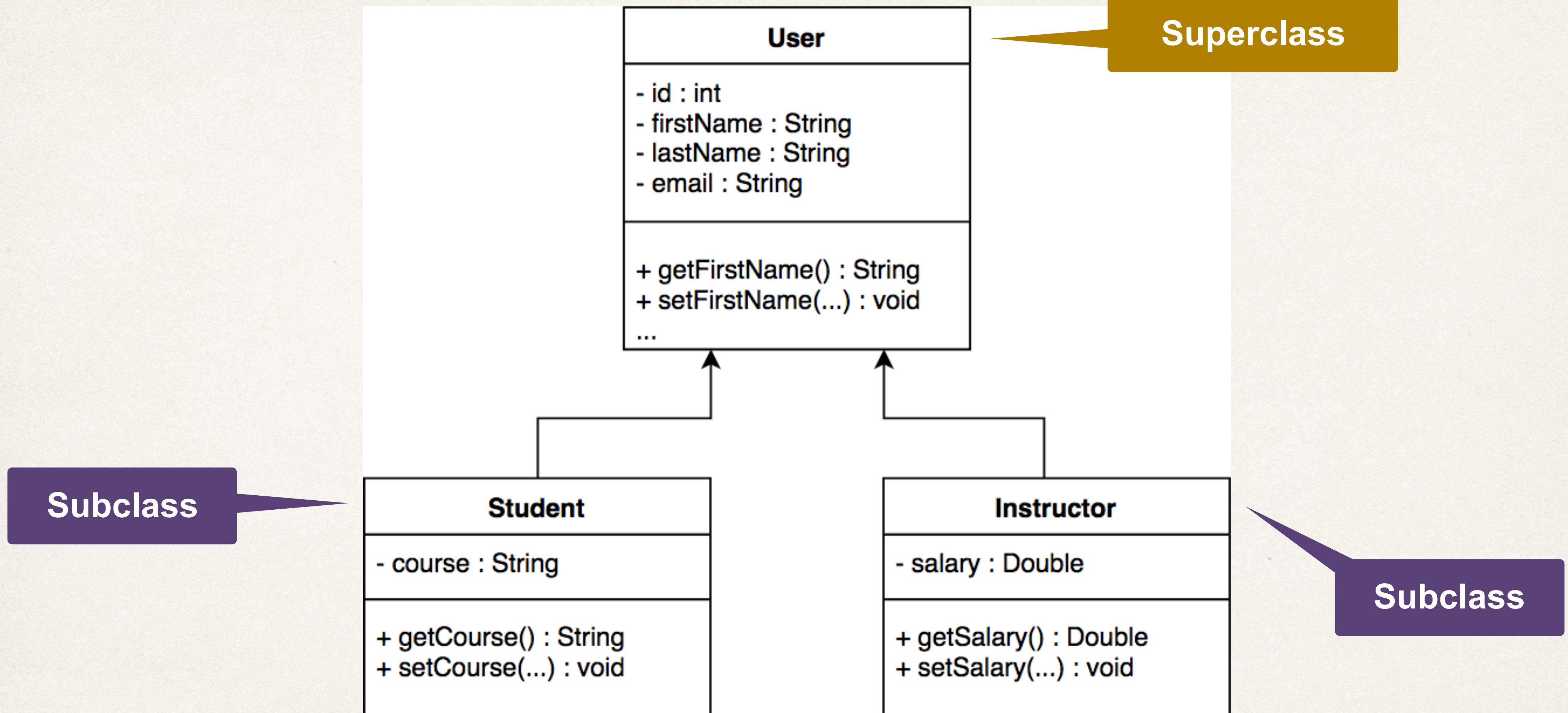
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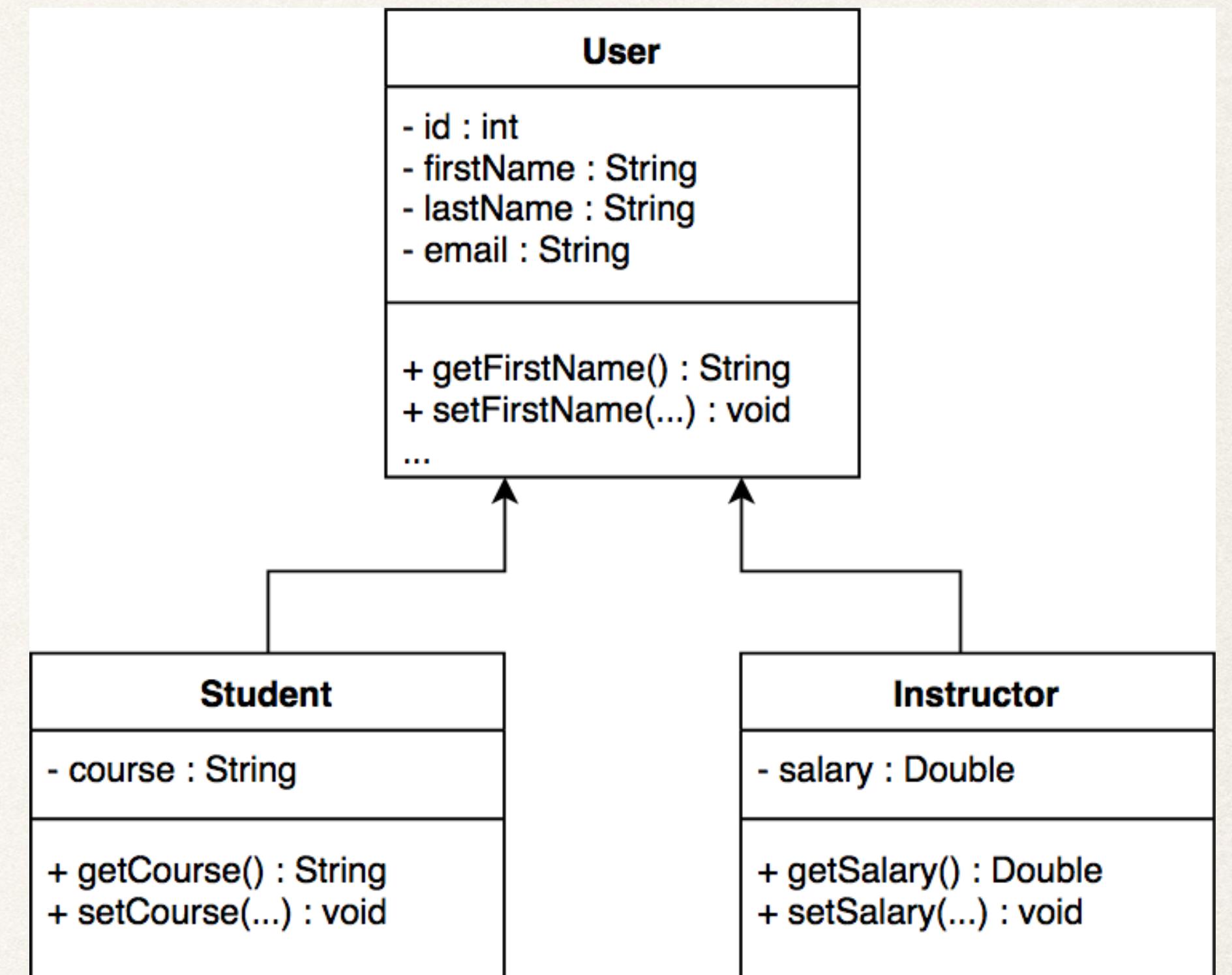
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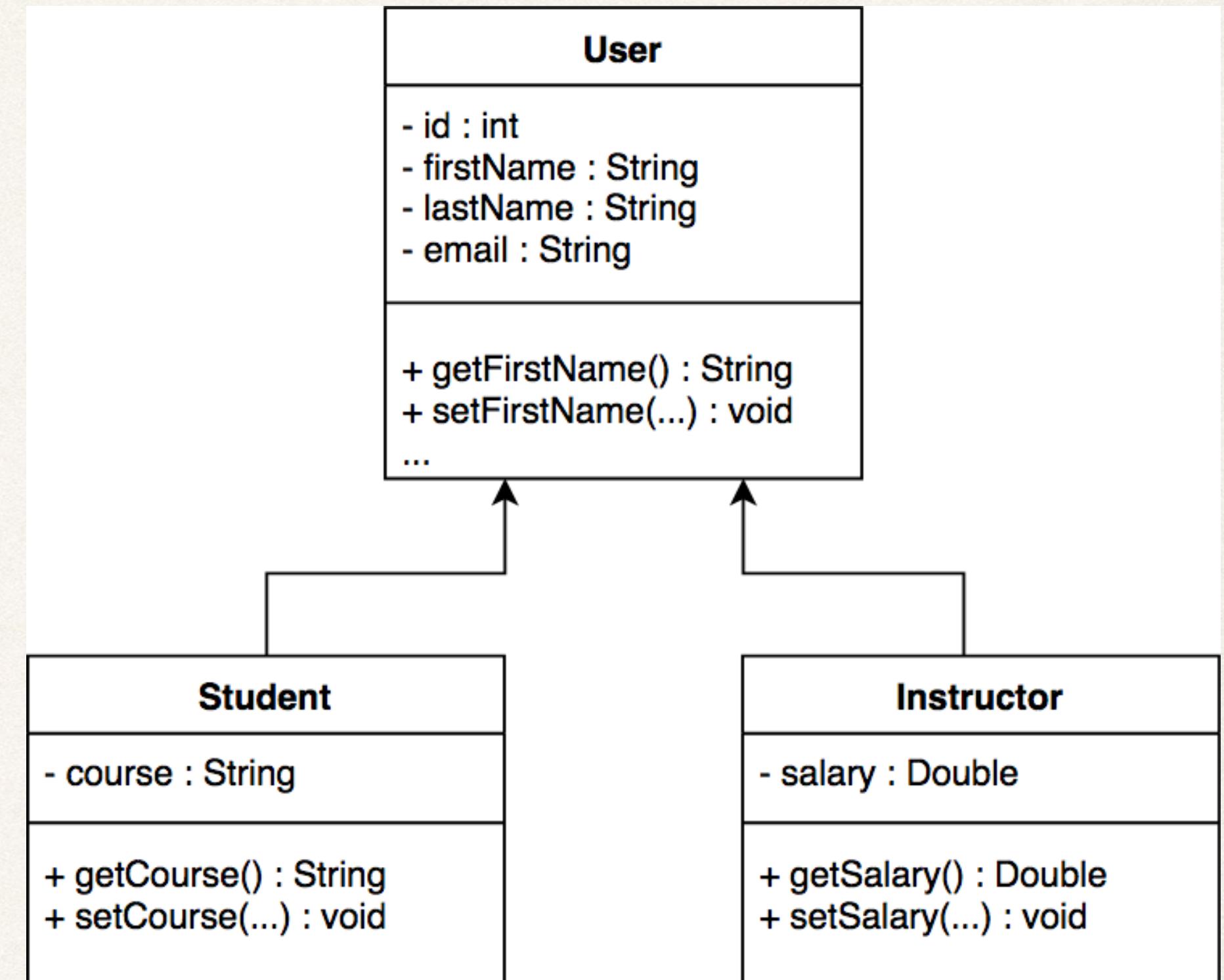


# Use Case - Code



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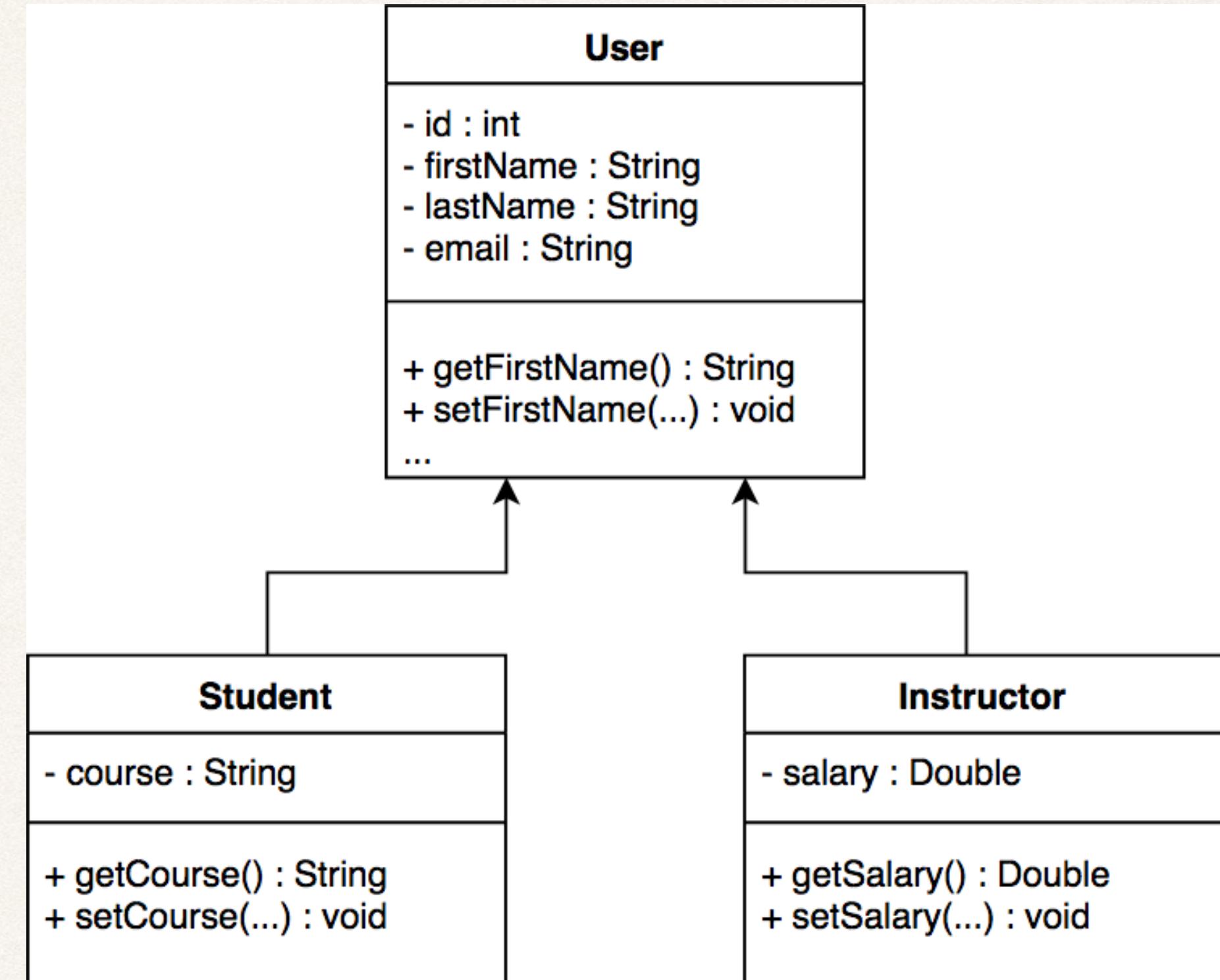
```
public class User {  
    ...  
}
```



# Use Case - Code

```
public class User {  
    ...  
}
```

```
public class Student extends User {  
    ...  
}
```

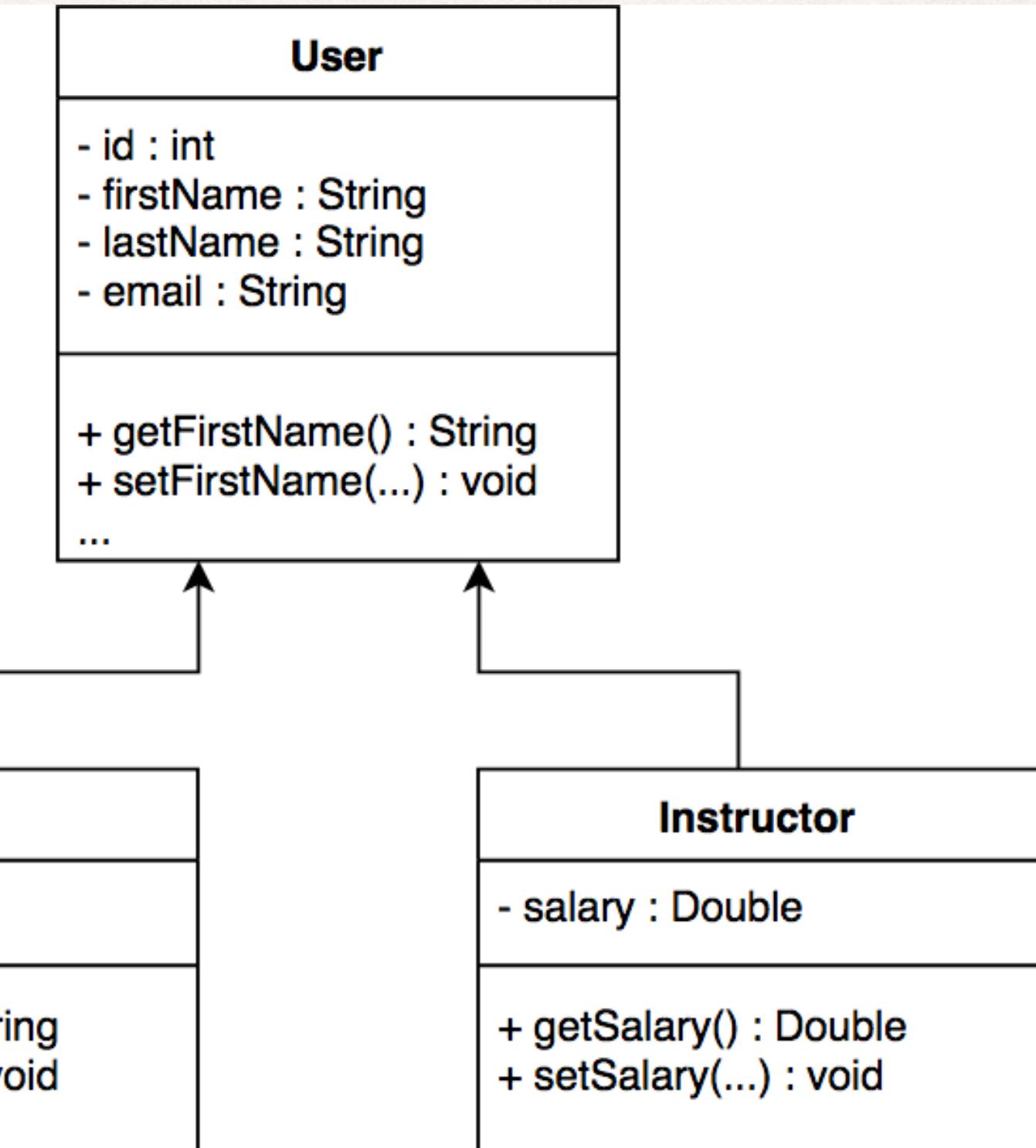


# Use Case - Code

```
public class User {  
    ...  
}
```

```
public class Student extends User {  
    ...  
}
```

```
public class Instructor extends User {  
    ...  
}
```

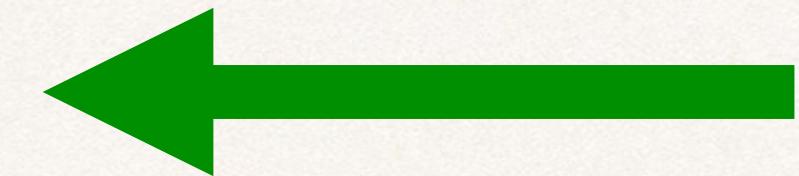


# Inheritance Mapping Strategies

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- Joined table
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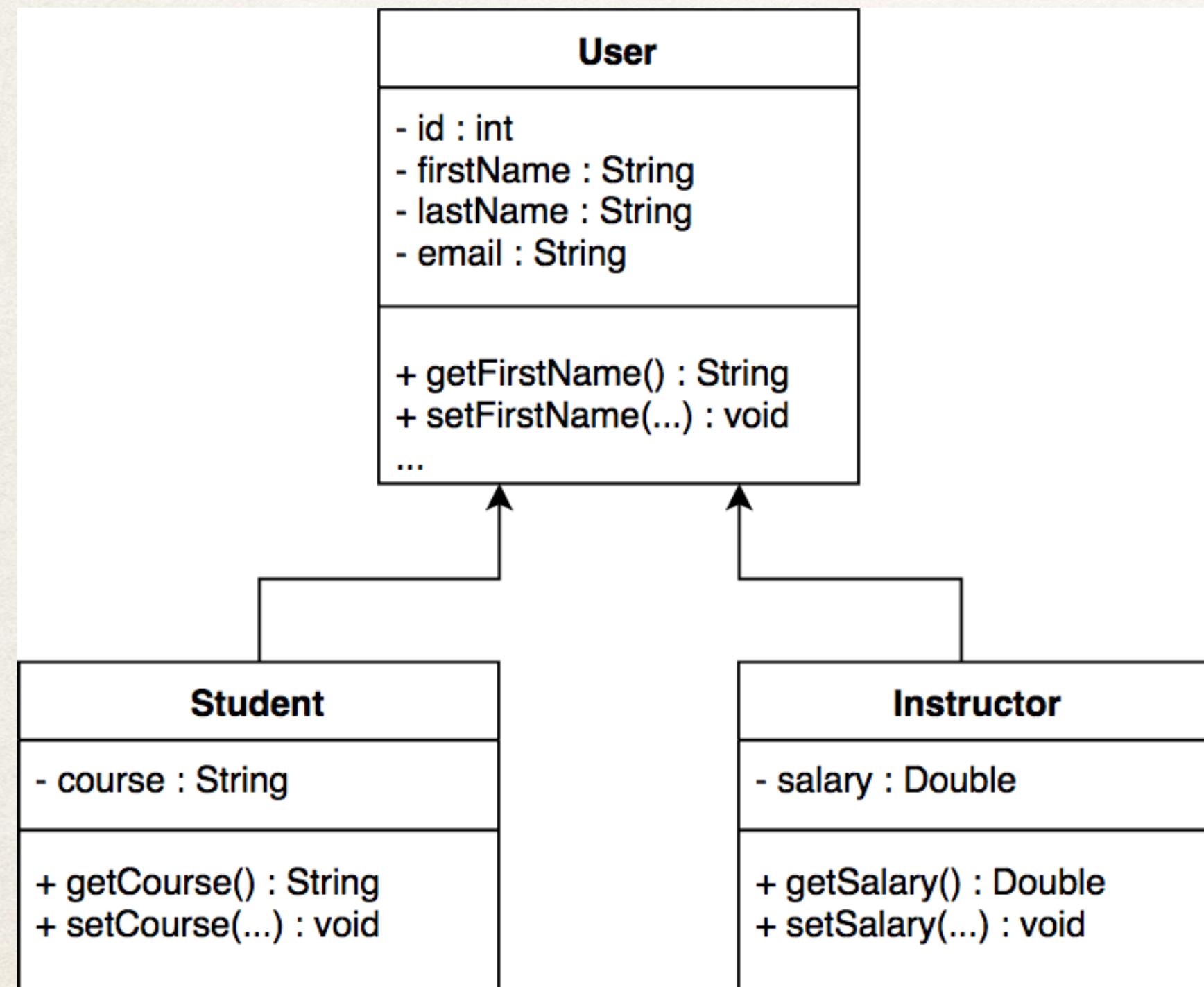
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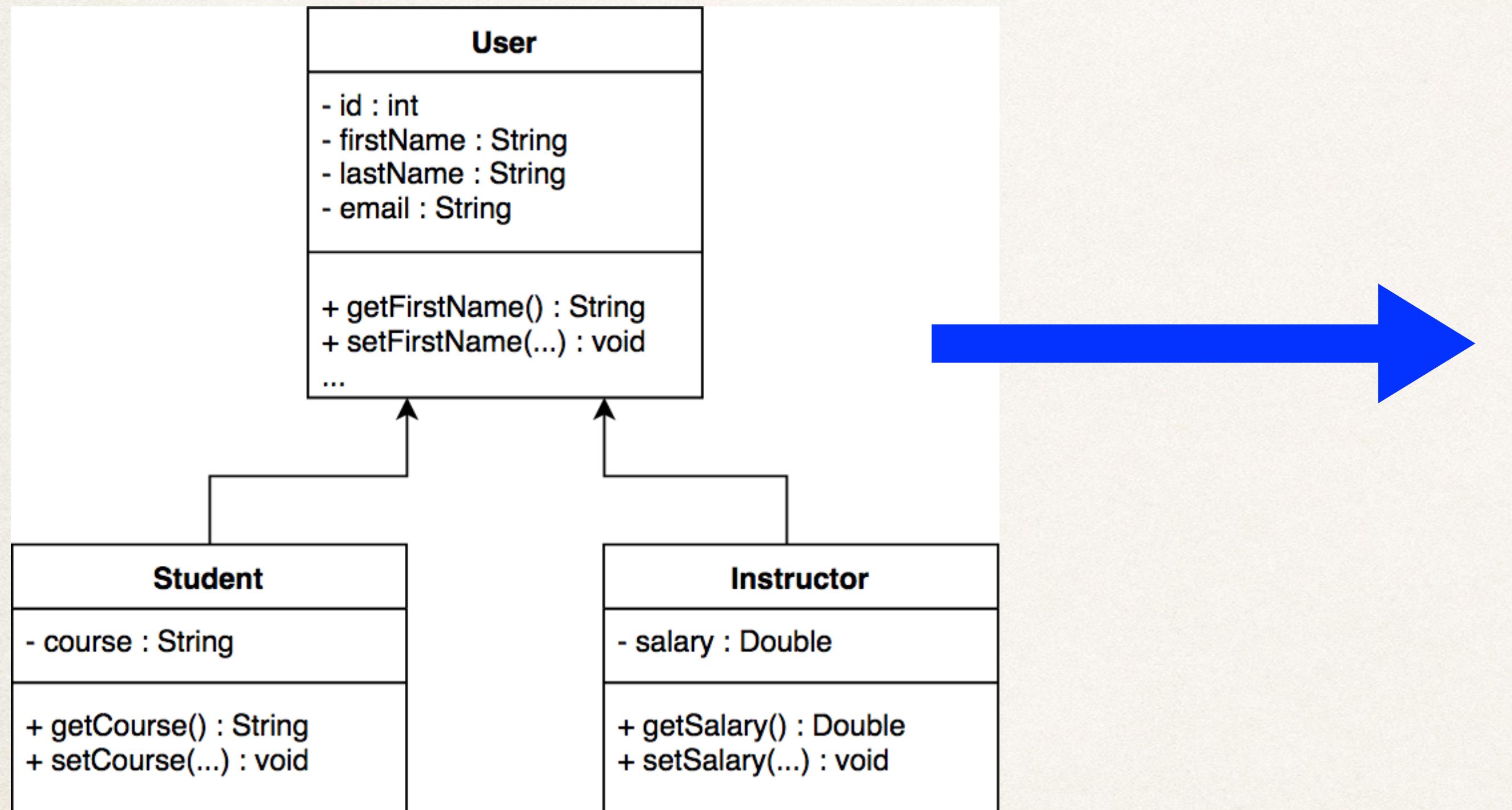
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- A **discriminator column** indicates the type / class of data in the row
- Table has columns for all fields in the inheritance tree
- Each row will only use a subset of the fields
- Unused fields are null

# Single Table - Database Diagram

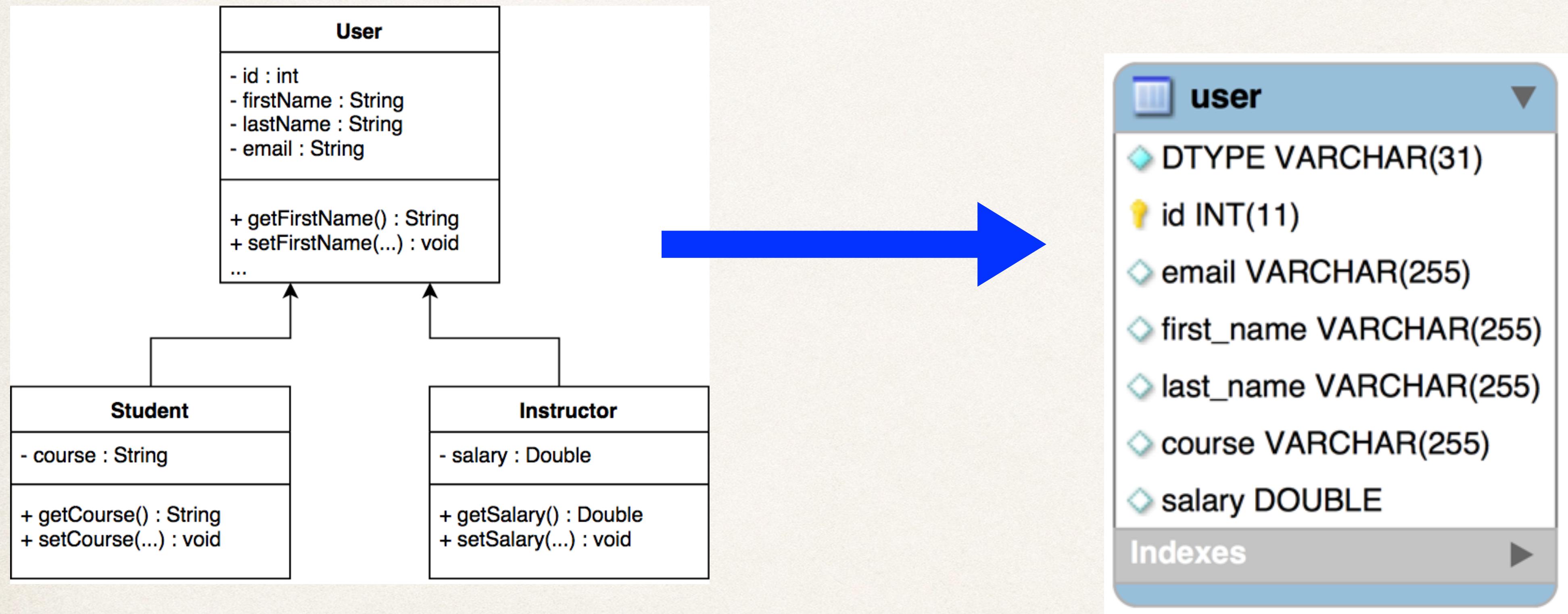
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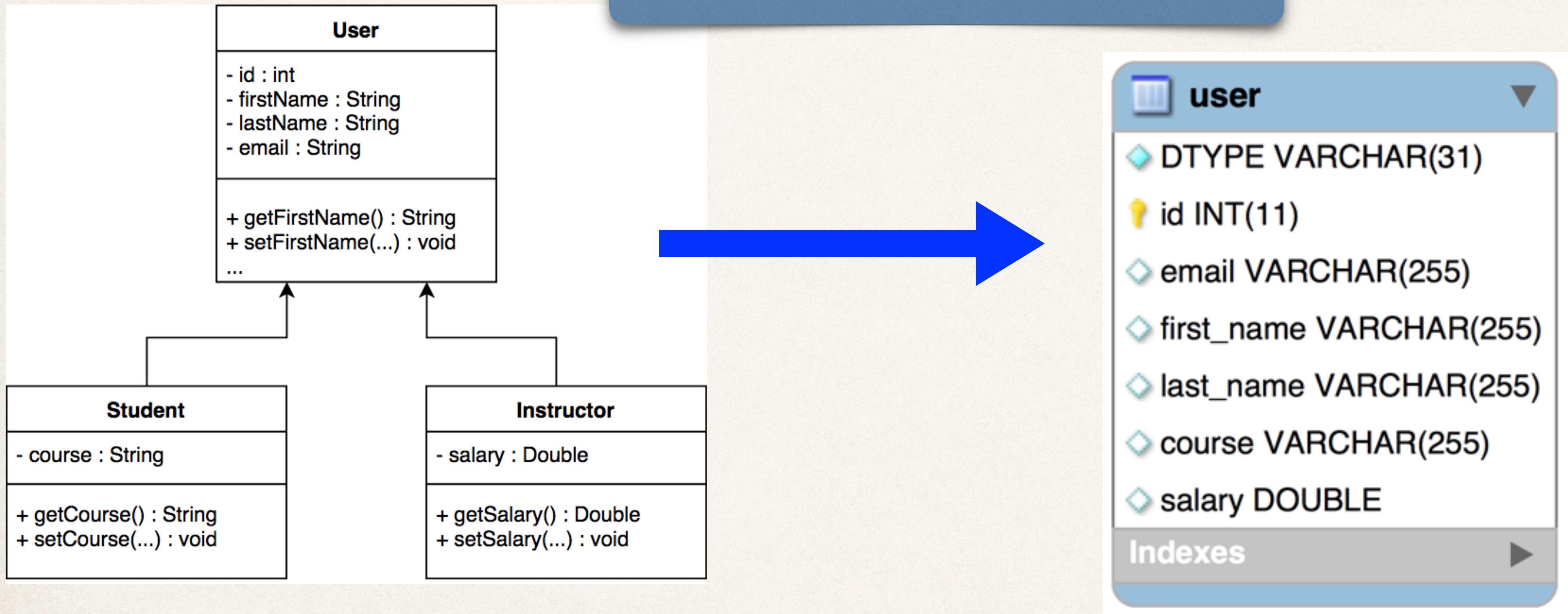


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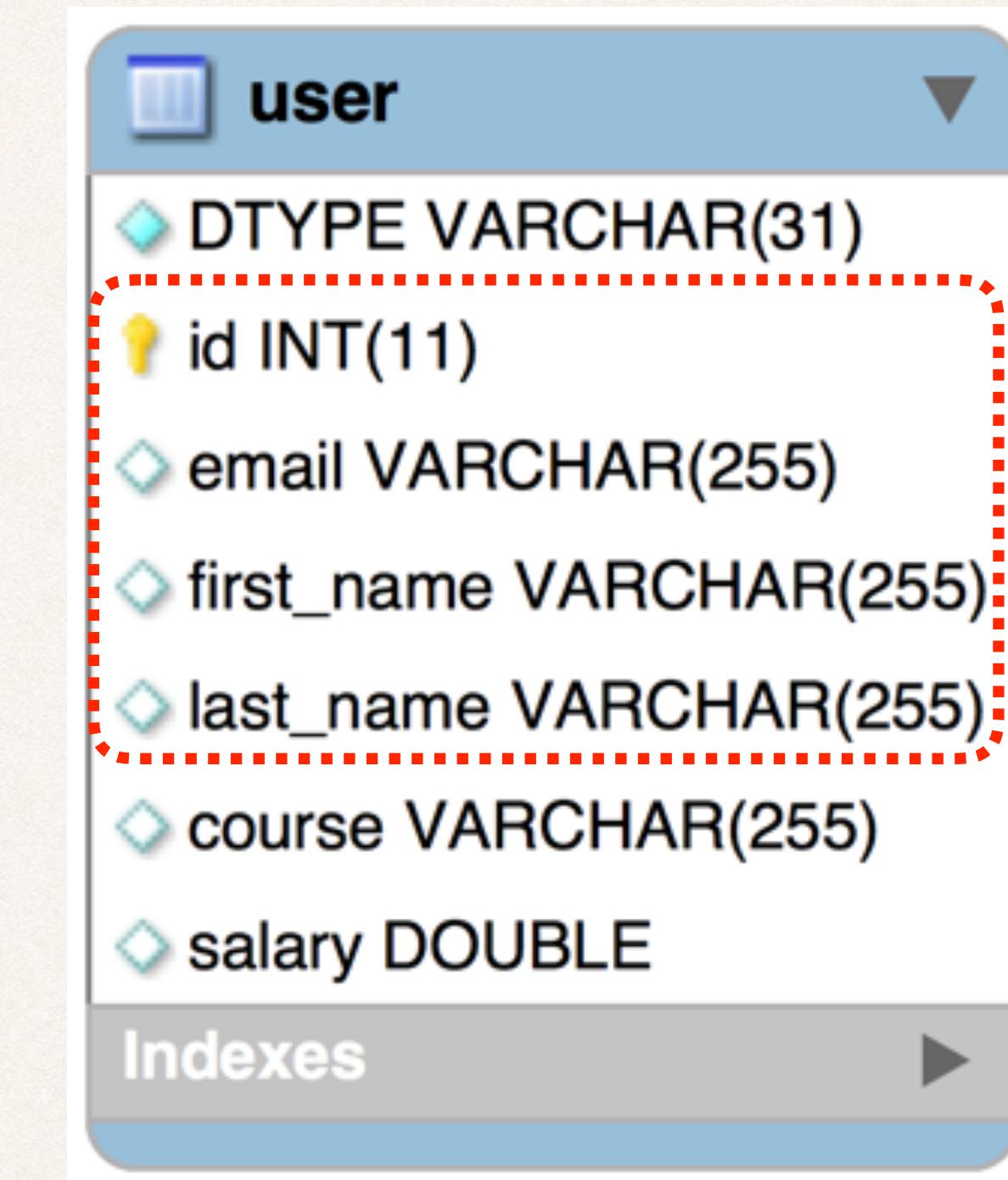
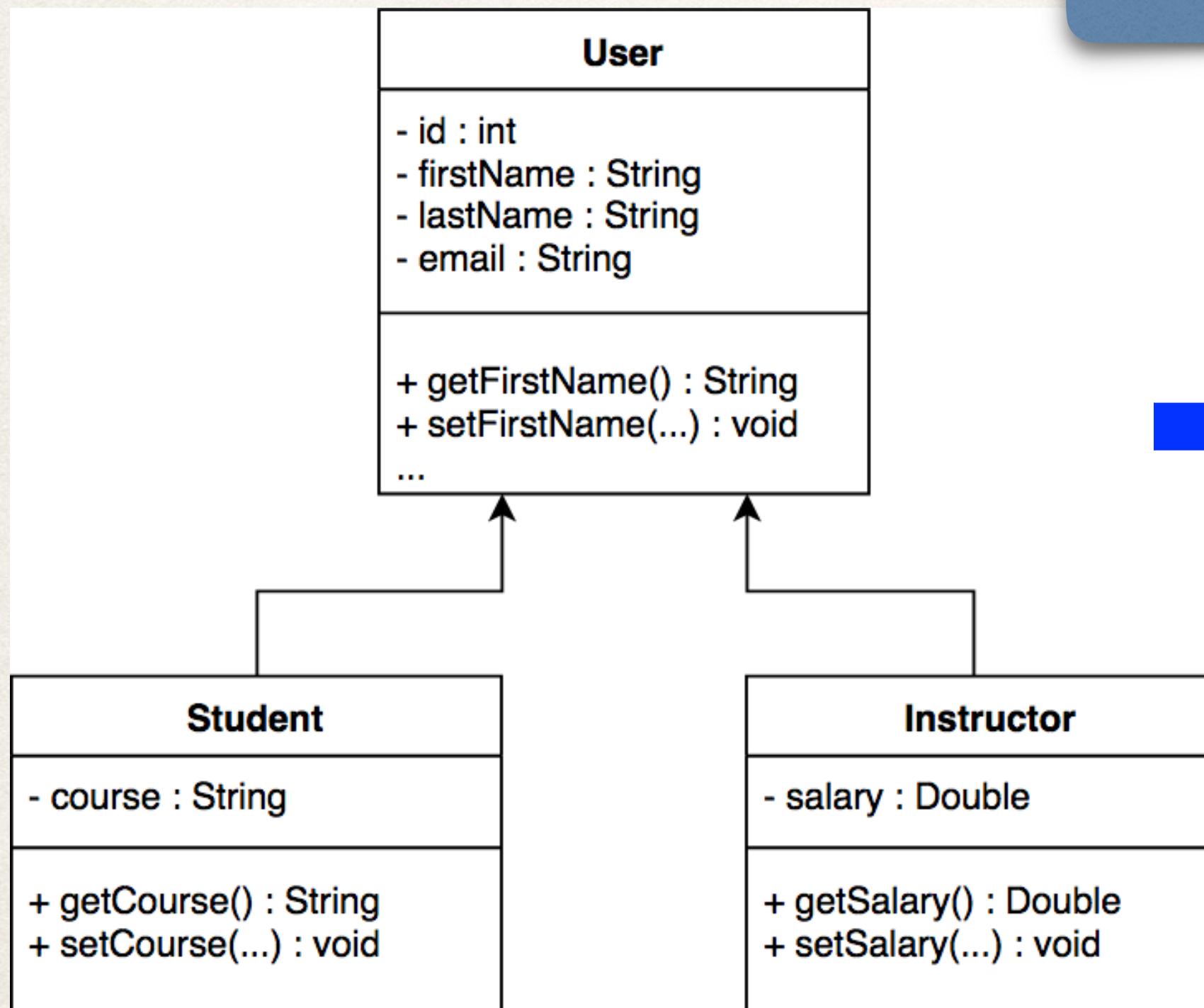
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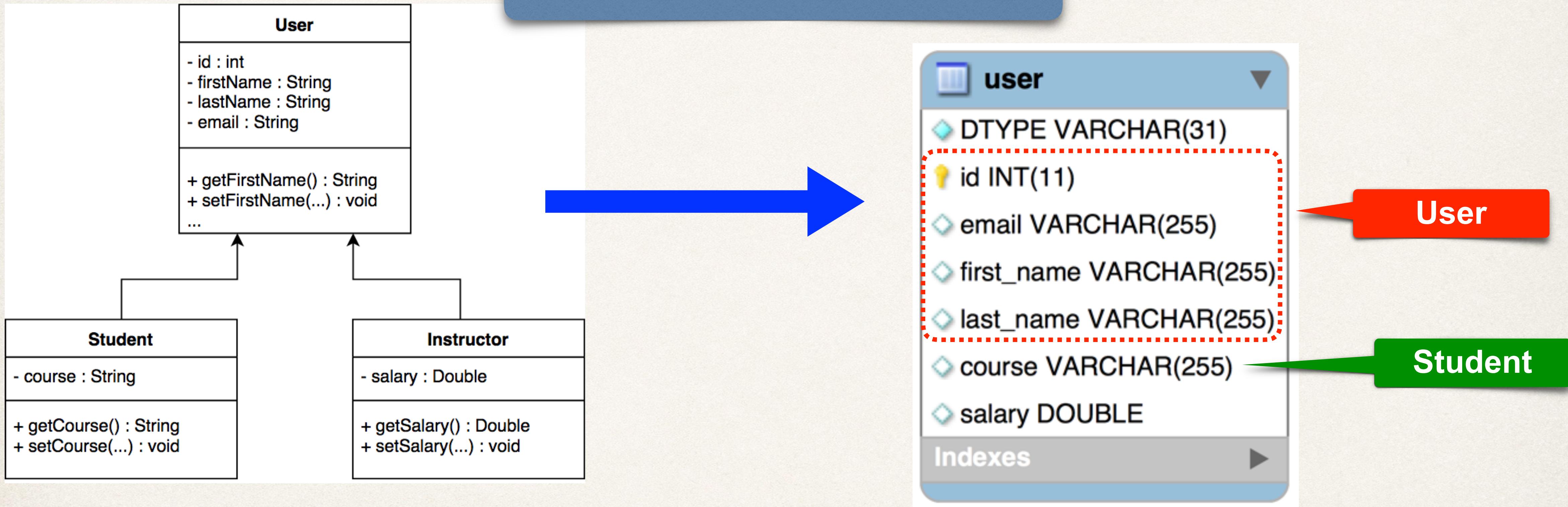
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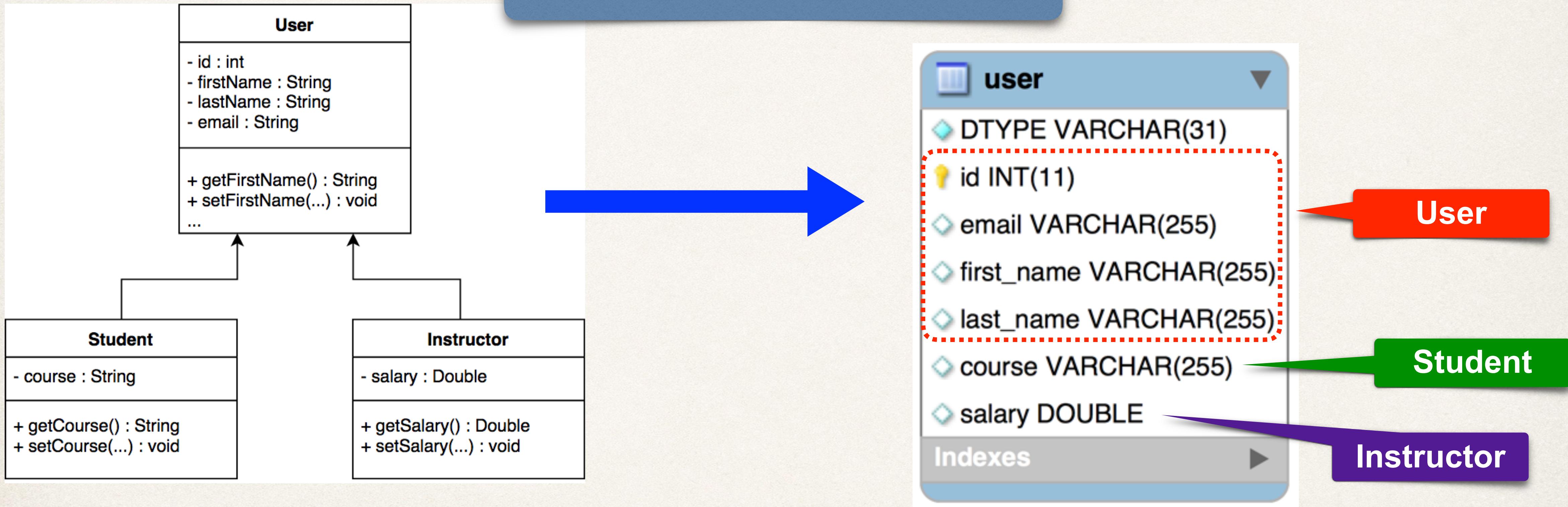
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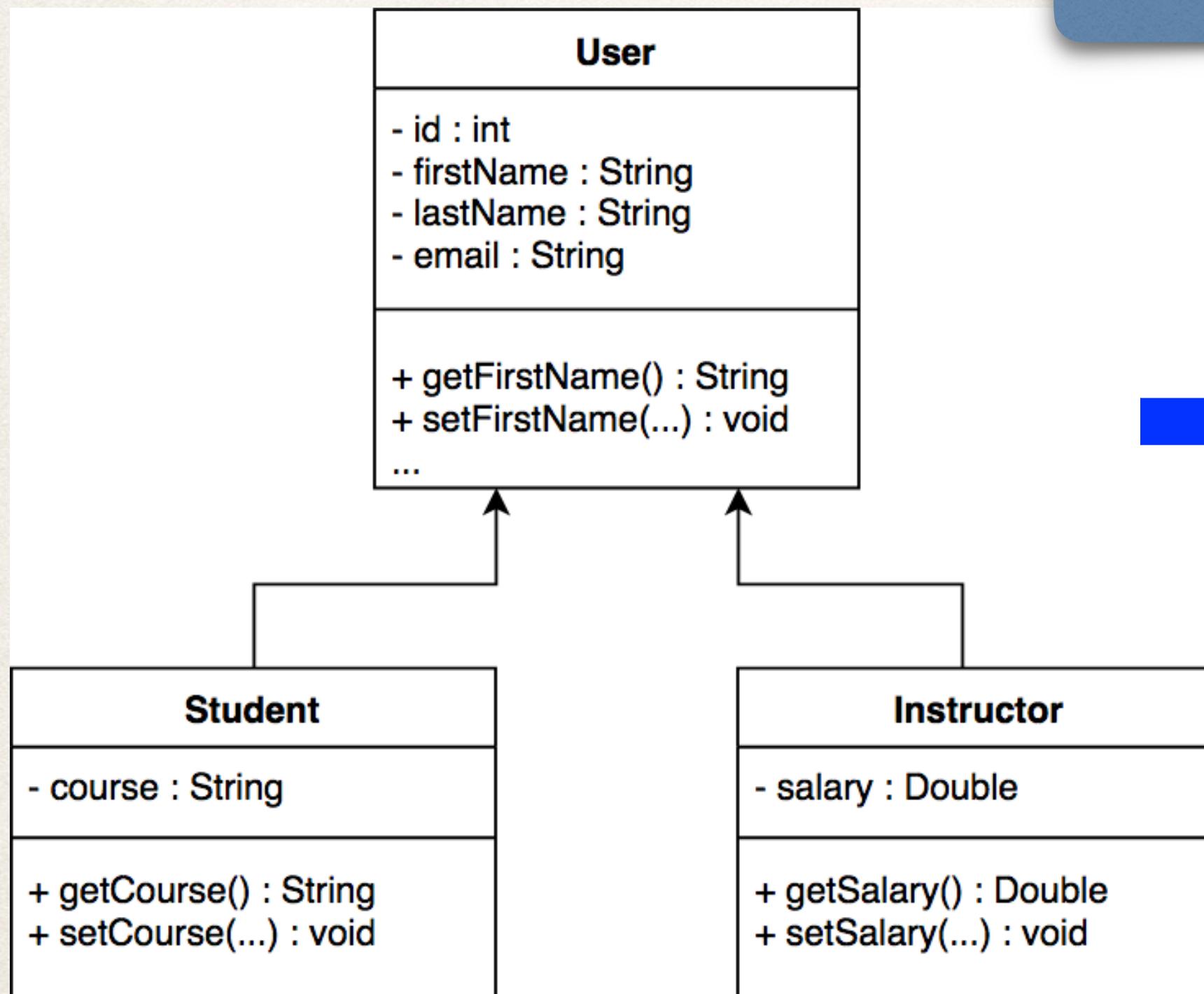


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Discriminator column  
The class/type of data

