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## Association in Java

## **=> HAS-A Relationship (Association) :-**

-> Association is relation between two separate classes which establishes through their objects

-> Association has 4 types :-

1. One-to-One Association
2. One-to-Many Association
3. Many-to-One Association
4. Many-to-Many Association

-> Association has 2 forms :-

1. Composition
2. Aggregation

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## **=> One-to-One Association :-**

-> Real World Example :-

1. One person has one passport
2. One employee has one employee id
3. One student has one roll no

-> It is a relation between entities where one instance of an entity should be mapped only to one instance of another entity

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## **=> One-to-Many Association :-**

-> Real World Example :-

1. One person can have multiple phone numbers
2. One student can have multiple courses

3. One person can have multiple bank accounts

4. One machine can have multiple functionalities like tea, coffee etc

5. One customer can have multiple orders

6. One class can have multiple students

-> It is the relation between entity classes where one instance of an entity should be mapped with multiple instance of another entity

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### => Many-to-One Association :-

-> Real World Example :-

1. Many colleges can associate with single university

2. Multiple cities exist in one state

3. Many ports can exist in one extention

4. Multiple students can have one branch

-> It is a relation between entities where multiple instances of an entity should be mapped with exactly one instance of another entity

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### **=> Many-to-Many Association**

-> Real World Example :-

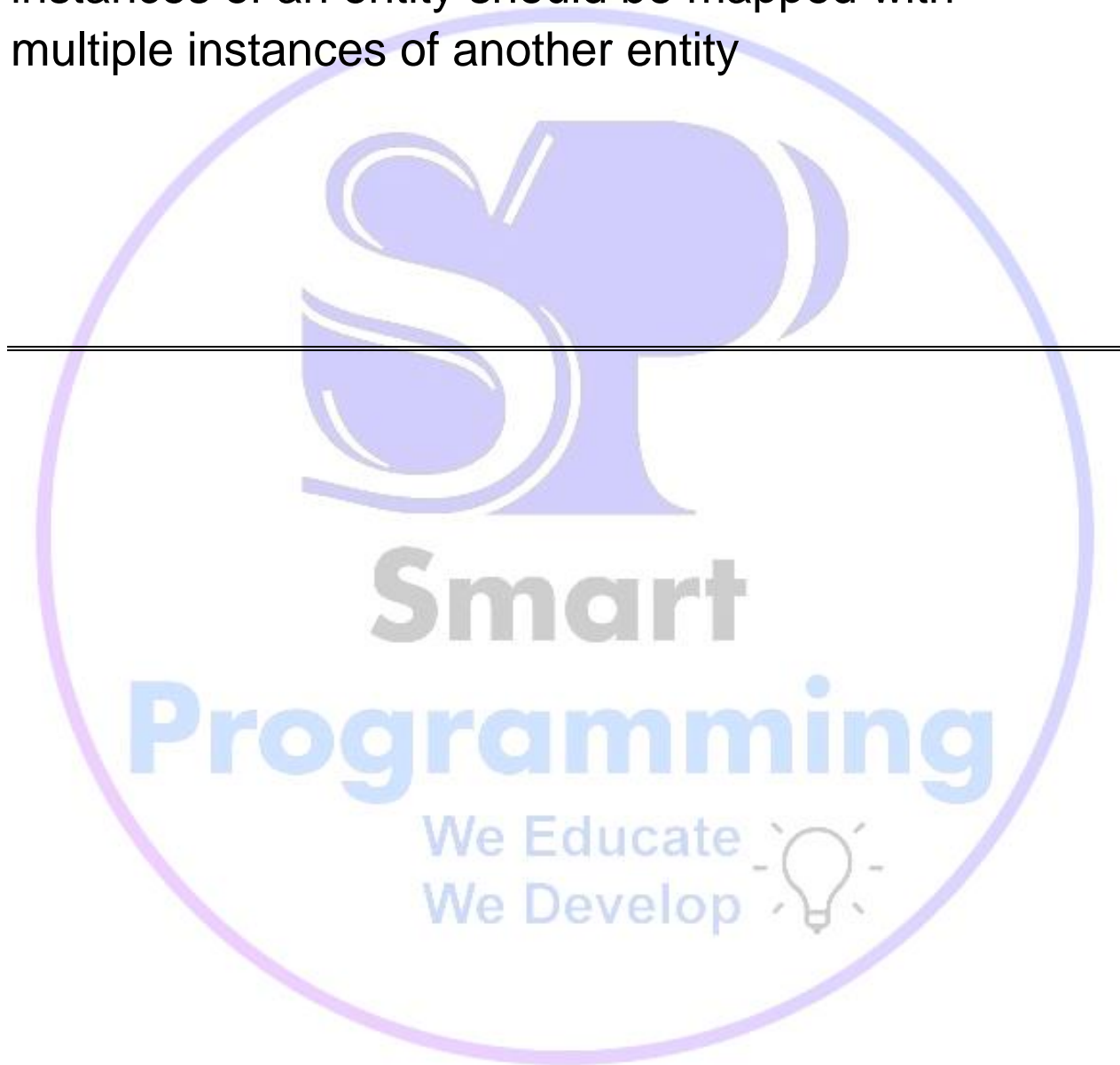
1. Multiple customers can buy multiple products and multiple products can be bought by multiple customers

2. Multiple students can associate with multiple teachers and multiple teachers are associated with multiple students

3. Multiple students can learn multiple languages



-> It is relation between entities where multiple instances of an entity should be mapped with multiple instances of another entity



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