

OOPs concepts - What is Association in java?

BY CHAITANYA SINGH | FILED UNDER: [OOPS CONCEPT](#)

In this article we will discuss **Association in Java**. Association establishes relationship between two separate **classes** through their **objects**. The relationship can be one to one, One to many, many to one and many to many.

Association Example

```
class CarClass{
    String carName;
    int carId;
    CarClass(String name, int id)
    {
        this.carName = name;
        this.carId = id;
    }
}
class Driver extends CarClass{
    String driverName;
    Driver(String name, String cname, int cid){
        super(cname, cid);
        this.driverName=name;
    }
}
class TransportCompany{
    public static void main(String args[])
    {
        Driver obj = new Driver("Andy", "Ford", 9988);
        System.out.println(obj.driverName+" is a driver of car Id: "+obj.carId);
    }
}
```

Output:

```
Andy is a driver of car Id: 9988
```

In the above example, there is a one to one relationship(**Association**) between two classes: CarClass and Driver. Both the classes represent two separate entities.

Association vs Aggregation vs Composition

Lets discuss **difference between Association, Aggregation and Composition**:

Although all three are related terms, there are some major differences in the way they relate two classes. **Association** is a relationship between two

separate classes and the association can be of any type say one to one, one to many etc. It joins two entirely separate entities.

Aggregation is a special form of association which is a unidirectional one way relationship between classes (or entities), for e.g. Wallet and Money classes. Wallet has Money but money doesn't need to have Wallet necessarily so its a one directional relationship. In this relationship both the entries can survive if other one ends. In our example if Wallet class is not present, it does not mean that the Money class cannot exist.

Composition is a restricted form of Aggregation in which two entities (or you can say classes) are highly dependent on each other. For e.g. Human and Heart. A human needs heart to live and a heart needs a Human body to survive. In other words when the classes (entities) are dependent on each other and their life span are same (if one dies then another one too) then its a composition. Heart class has no sense if Human class is not present.