Answer to Activity 2



**1NF:** Remove repeating groups and attributes.



SalesPerson\_Customer entity needs a ***concatenated key*** of two keys Sales\_person\_No and Customer\_No

Problem: Some of attributes in in this entity are not functionality dependent on the primary keys. In other words, some of the non-key attributes are dependent only on Customer\_No and not on Sales\_person\_No i.e. Customer\_name; Warehouse\_No; Warehouse\_location are only dependent to Customer\_No. This is called **partial dependency.**

**2NF**: Remove the partial dependency.

All attributes must be functionally dependent on the primary key. Therefore the next step is to remove all the partially dependent attributes and place them in another relation.



Customer Warehouse entity is now in 2NF but not in 3NF.

It can still simplified further because there are additional dependencies. Some of the non-key attributes are dependent not only on the primary key, but also on a non-key attribute. For example Warehouse\_location is dependent on Warehouse\_No. This dependency is referred to as a **transitive dependency**.

**3NF**: Remove the transitive dependency.

A normalised ERD is in the 3NF if all the non-key attributes are fully functionally dependent on the primary key and there are no transitive dependencies.

