**Steps for Normalisation**

**Unnormalised Form – remember the oath**

* List data items
* Put non-repeating data at the top
* Put repeating data at the bottom
* Use ⚫ to determine repeats
* Use ⚫⚫ to determine repeats in repeats
* Identify primary key for the whole form

**First Normal Form -** No Repeating Data

* List non repeating data
* Separate repeating and non repeating data items
* Bring down primary key from non-repeating data
* Make compound key
* Identify foreign key

**Second Normal Form -** Attributes must depend on the key, The whole key

* Look at relations with more than one item in the primary key
* Copy compound key across first
* Check that all non-key items depend on all of the key

*ie Customer name may only be dependent on Customer ID*

* If attributes dependent on part of the key:
* Copy down the part of the key that has sole dependants

*eg customer id*

* Leave a copy in the original relation and mark as a foreign key
* Pull out attributes that only depend on that part of the key

*eg customer name*

* Repeat as necessary

**Third Normal Form -** And nothing but the key

* Look at all relations with more than one non key item
* Ensure there are no mutually dependent non-key items
* ie do attributes not part of the key dependent on other attributes
* If attributes dependent on a non key attribute:
* Copy down the attribute that others depend on
* Leave a copy in the original relation and mark as a foreign key
* Pull out attributes that are dependent on that attribute
* Repeat as necessary

So help me Codd