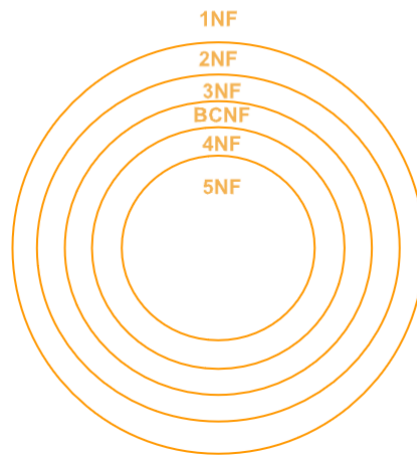


# Normalization

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There are total six level of normalization.



Norm level	definition	in other words
1	the domains of all attributes of R are atomic	singled valued attribute
2	not have any non-prime attribute that is dependent on any proper subset of any candidate key of the relation	no partial dependencies
3	all the attributes in a table are determined only by the candidate keys of that relation and not by any non-prime attributes	no transitive dependency

## 1 Normal Form

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How to modify a table to conform to the 1st norm.

Name	Phone Num
Mary	12345678912
Ben	0755-12345
John	0755-11111, 98765432199



No.	Name	Phone Num
1	Mary	12345678912
2	Ben	0755-12345
3	John	0755-11111
4	John	98765432199

Name	Landline Num	Cellphone Num
Mary		12345678912
Ben	0755-12345	
John	0755-11111	98765432199

## 2 Normal Form

How to modify a table to conform to the 2nd norm.

Name	City	Age	Favorite Food	Country
Mary	Bremen	22	hamburg	Germany
Ben	Chicago	23	hitdog	USA
John	Shenzhen	22	yumcha	China
John	London	24	Sadwich	UK



Name	City	Age	Favorite Food
Mary	Bremen	22	hamburg
Ben	Chicago	23	hitdog
John	Shenzhen	22	yumcha
John	London	24	Sadwich



City	Country
Bremen	Germany
Chicago	USA
Shenzhen	China

## 3 Normal Form

How to modify a table to conform to the 3rd norm.

**PK**

Name	City	Age	Favorite Food	Country
Mary	Bremen	22	hamburg	Germany
Ben	Chicago	23	hotdog	USA
John	Shenzhen	22	yumcha	China



Name	City	Age	Favorite Food
Mary	Bremen	22	hamburg
Ben	Chicago	23	hotdog
John	Shenzhen	22	yumcha



City	Country
Bremen	Germany
Chicago	USA
Shenzhen	China