

normalisation

Normalisation

Normalisation is a technique which can help u to reduce redundancy of data in your tables. It helps us transform our DB design in a way that we have the most efficient and least redundant data storage design.

Sales Record

CustName	ItemName	ShippingAddr	Supplier	SupportContact	Price	NewsLetter
Sanket	PS5	35-1A, Bengaluru	Sony	1800900800	50K	SonyNewsLetter
Sanket	xBox	35-1A, Bengaluru	Microsoft	1800701801	45K	MSFTLetter

Improve the above DB design

1NF

First Normal Form

Every attribute must be having atomic values (simply indivisible).

CustName	ItemName	AddressId	Supplier	SupportContact	Price	NewsLetter
Sanket	PS5	1	Sony	1800900800	50K	SonyNewsLetter
Sanket	xBox	2	Microsoft	1800701801	45K	MSFTLetter

Address

id	H/No	Address1	Address2	pincode

cities

id	name	pincode	country

2NF

Second normal form

N:M

SalesRecord

CustId	ItemId	AddressId
1	3	1
2	4	2

- You db should be already 1NF compliant.
- all attributes should depend on a key identifier.

id	name	email	password

customers

Address

--	--	--	--	--

cities

--	--	--	--

id	H/No	Address1	Address2	pincode

id	name	pincode	country

id	name	supplier_id	price

Items

id	name	support contact	newsletter

Supplier

3NF Form

- Your db should be 2NF compliant
- We should not have any transitive dependency (all fields can be determined by only the key in the table and no other column)

$A \rightarrow B$ and $B \rightarrow C$ then $A \rightarrow C$

Student Score

- Student_id
- Subject_id
- marks
- ExamId

Exam

id
Type
TotalMarks

(student_id, subject_id) =====> ExamType =====> total Marks

Users
- id
email
password
contactNumber

product

-id
name
price
rating
category_id
company_id

product_reviews

product_id
user_id
is_verified
comment

Category

id
name

Company

id
address
name

Orders

-id
- user_id

order_items

order_id
product_id

gst

- orderValue
- mode_of_payment
- status

- order_id
- product_id
- quantity

1 1 1
1 2 2
1 3 1
2 2 2

```
select * from order_items inner join orders on order_items.order_id = orders.id  
inner join products on order_items.product_id = products.id;
```

1. Think about how to handle search queries with indexes where more than 1 property is involved
2. How to make indexes in mysql