

Database Normalization is a technique of organizing the data in the database. Normalization is a systematic approach of decomposing tables to eliminate data redundancy(repetition) and undesirable characteristics like Insertion, Update and Deletion Anomalies:

	name	address	suburb	contact	item_id	item
1	Jane Doe	123 Happy Street	Nerangba	0412 345 678	1	Keyring
2	Jane Doe	123 Happy Street	Nerangba	0412 345 678	2	t-Shirt
3	Jane Doe	123 Happy Street	Nerangba	0412 345 678	3	Shoes

^^ The above table is **NOT NORMALIZED**.

To **normalise** this table:

Table: POSTAGE

	item_id	cust_id	item
	Filter	Filter	Filter
1	1	99	Keyring
2	2	99	t-Shirt
3	3	99	Shoes

Table: CUSTOMERS

	cust_id	name	address	suburb	contact
	Filter	Filter	Filter	Filter	Filter
1	99	Jane Doe	123 Happy Street	Nerangba	0412 345 678

And use SQL to reconstruct information following the normalisation process:

```
SELECT *
FROM CUSTOMERS JOIN POSTAGE ON CUSTOMERS.cust_id = POSTAGE.cust_id
```

Yields:

	cust_id	name	address	suburb	contact	item_id	cust_id	item
1	99	Jane Doe	123 Happy Street	Nerangba	0412 345 678	1	99	Keyring
2	99	Jane Doe	123 Happy Street	Nerangba	0412 345 678	2	99	t-Shirt
3	99	Jane Doe	123 Happy Street	Nerangba	0412 345 678	3	99	Shoes

User **TABLE.field** when JOINING tables, so that column names are not ambiguous:

```
SELECT CUSTOMERS.name, POSTAGE.item
FROM CUSTOMERS JOIN POSTAGE ON CUSTOMERS.cust_id = POSTAGE.cust_id
```