# Formative Activity

The aim of this activity is to allow you to gain some experience normalising a set of tables.

Given the following set of tables, for our property lettings example, you should develop a table structure that conforms to third normal form (3NF). This will be discussed in next week's seminar. Post your structure to the discussion below and compare your own approach with your peers. Use the guidelines provided for peer review on the department website.

## **Existing Table Structures**

## **Properties Table**

					Duration	Pets	Deposit	Deposit
name address telephone	name	Date of	telephone	start		allowed	amount	paid
		Birth		date				

#### Maintenance Table

Street	Postcode	Owner	Owner	Tenant	Tenant	Issue	Contractor	Contractor	Estimated	Resolved
		name	telephone	name	telephone		name	telephone	cost	

#### FIRST NORMAL FORM

1NF exists if these two criteria are met: (openclassrooms, 2020)

- A primary key has been defined to uniquely identify records.
- There are no repeating groups in the relation.

We create primary keys for both tables property id and job id and eliminate repeated columns

Property	Street	Postcode	Type	Bedrooms	Owner	Owner	Owner	Price	Client	Client	Client	Rental	Duration	Pets	Deposit	Deposit
id					name	address	telephone		name	Date of	telephone	start		allowed	amount	paid
										Birth		date				

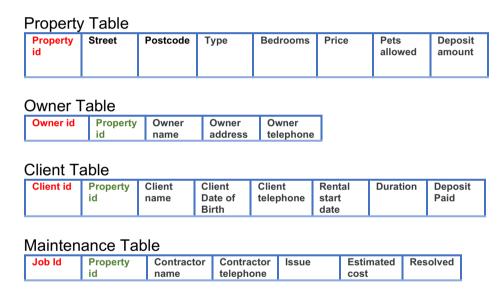
Job id	Property	Tenant	Tenant	Issue	Contractor	Contractor	Estimated	Resolved
	id	name	telephone		name	telephone	cost	

#### SECOND NORMAL FORM

2NF exists if these two criteria are met: (openclassrooms, 2020)

- The relation is in 1NF.
- · Partial dependencies are removed

To eliminate partial dependencies in the properties table, we'll have to remove those columns that are partially dependent on the property id and create other tables with their own primary keys. We also do the same for maintenance table



#### THIRD NORMAL FORM

3NF exists if these two criteria are met: (openclassrooms, 2020)

- The relation is in 2NF.
- · transitive dependencies are removed

Maintenance table can be further divided as contractor telephone is dependent on the contractor name field, which is a non-key field in this table.

#### Maintenance Table



Contractor Table – contractor name can also serve as primary key in this case but decided to stick to the pattern of creating ids as Primary keys



Property Table can also be further divided to remove transitive dependencies. Bedrooms and Price is dependent on the type field, which is a non-key field in this table.

Property Table – with a foreign key type id



Property Type Table – also created type id for this table as primary key



## Owner Table



## Client Table

Client id	Property id	Client name	Client Date of	Client telephone		Duration	Deposit Paid
			Birth		date		

## References

Open classrooms (2020) Normalize to the First, Second, and Third Normal Forms.

Available from: <a href="https://openclassrooms.com/en/courses/5671741-design-the-logical-model-of-your-relational-database/6260611-normalize-to-the-first-second-and-third-normal-forms">https://openclassrooms.com/en/courses/5671741-design-the-logical-model-of-your-relational-database/6260611-normalize-to-the-first-second-and-third-normal-forms</a>