# FIT3171 Assignment 1B- Normalization

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## Monash Movement Class Staffing Report

**UNF**

CLASS(centre\_id, centre\_name, centre\_street, centre\_town, centre\_postcode, class\_no, class\_duration, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions, (staff\_id, staff\_name, staff\_class\_leader, staff\_first\_aid\_cert))

Identified Primary Key – centre\_id, class\_no

**1NF**

CLASS(­centre\_id, class\_no, centre\_name, centre\_street, centre\_town, centre\_postcode, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CLASS\_STAFF(centre\_id, class\_no, staff\_id¸ staff\_name, staff\_class\_leader, staff\_first\_aid\_cert)

Partial dependencies:

centre\_id -> centre\_name, centre\_street, centre\_town, centre\_postcode

staff\_id -> staff\_name, staff\_first\_aid\_cert

**2NF**

CLASS(centre\_id, class\_no, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CENTRE(centre\_id, centre\_name, centre\_street, centre\_town, centre\_postcode)

CLASS\_STAFF(centre\_id, class\_no, staff\_id, staff\_class\_leader)

STAFF(staff\_id, staff\_name, staff\_first\_aid\_cert)

Transitive dependencies

No transitive dependencies present

**3NF**

CLASS(centre\_id, class\_no, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CENTRE(centre\_id, centre\_name, centre\_street, centre\_town, centre\_postcode)

CLASS\_STAFF(centre\_id, class\_no, staff\_id, staff\_class\_leader)

STAFF(staff\_id, staff\_name, staff\_first\_aid\_cert)

Full dependencies

centre\_id -> centre\_name, centre\_street, centre\_town, centre\_postcode

centre\_id, class\_no -> facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions

centre\_id, class\_no, staff\_id -> staff\_class\_leader

staff\_id -> staff\_name, staff\_first\_aid\_cert

## Class Attendance Report

**UNF**

CLASS(centre\_id, centre\_name, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions, (member\_no, member\_payment\_date,(session\_date, member\_attended), member\_total\_attendance))

**1NF**

Identified Primary Key – centre\_id, class\_no

CLASS(centre\_id, class\_no, centre\_name, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CLASS\_MEMBER(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)

MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)

Partial dependencies:

centre\_id -> centre\_name

**2NF**

CLASS(centre\_id, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CENTRE(centre\_id, centre\_name)

CLASS\_MEMBER(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)

MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)

Transitive dependencies

No transitive dependencies present

**3NF**

CLASS(centre\_id, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CENTRE(centre\_id, centre\_name)

CLASS\_MEMBER(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)

MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)

Full dependencies

centre\_id -> centre\_name

centre\_id, class\_no -> class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions

centre\_id, class\_no, member\_no -> member\_payment\_date, member\_total\_attendance

centre\_id, class\_no, member\_no, session\_date -> session\_attended

## Collected 3NF relations

1. CLASS(centre\_id, class\_no, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)
2. CENTRE(centre\_id, centre\_name, centre\_street, centre\_town, centre\_postcode)
3. CLASS\_STAFF(centre\_id, class\_no, staff\_id, staff\_class\_leader)
4. STAFF(staff\_id, staff\_name, staff\_first\_aid\_cert)
5. CLASS(centre\_id, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)
6. CENTRE(centre\_id, centre\_name)
7. CLASS\_MEMBER(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)
8. MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)

## Attribute synthesis

1 and 5

CLASS(centre\_id, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

2 and 6

CENTRE(centre\_id, centre\_name, centre\_street, centre\_town, centre\_postcode)

3.

CLASS\_STAFF(centre\_id, class\_no, staff\_id, staff\_class\_leader)

4.

STAFF(staff\_id, staff\_name, staff\_first\_aid\_cert)

7.

CLASS\_MEMBER(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)

8.

MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)

Considering the logical model diagram, CLASS\_MEMBER is the same relation as ENROLLMENT in the logical model. MEMBER\_SESSION is renamed to be MEMBER\_ATTENDANCE in the logical model.

**Therefore, the final normalized relations are,**

CLASS(centre\_id, class\_no, class\_type, class\_desc, facility\_room\_no, class\_start\_date\_time, class\_no\_of\_sessions)

CLASS\_STAFF(centre\_id, class\_no, staff\_id, staff\_class\_leader)

STAFF(staff\_id, staff\_name, staff\_first\_aid\_cert)

ENROLLMENT(centre\_id, class\_no, member\_no, member\_payment\_date, member\_total\_attendance)

MEMBER\_SESSION(centre\_id, class\_no, member\_no, session\_date, session\_attended)