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(<u>centre_id</u>, <u>class_no</u>, centre_name, centre_street, centre_town, centre_postcode, facility_room_no, class_start_date_time, class_no_of_sessions)

CLASS_STAFF(<u>centre_id</u>, <u>class_no</u>, <u>staff_id</u>, staff_name, staff_class_leader, staff_first_aid_cert)

<u>Partial dependencies:</u>

       centre_id -> centre_name, centre_street, centre_town, centre_postcode

       staff_id -> staff_name, staff_first_aid_cert

2NF

CLASS(<u>centre_id</u>, <u>class_no</u>, facility_room_no, class_start_date_time, class_no_of_sessions)

CENTRE(<u>centre_id</u>, centre_name, centre_street, centre_town, centre_postcode)

CLASS_STAFF(<u>centre_id</u>, <u>class_no</u>, <u>staff_id</u>, staff_class_leader)

STAFF(<u>staff_id</u>, staff_name, staff_first_aid_cert)

<u>Transitive dependencies</u>

       No transitive dependencies present

3NF

CLASS(<u>centre_id</u>, <u>class_no</u>, facility_room_no, class_start_date_time, class_no_of_sessions)

CENTRE(<u>centre_id</u>, centre_name, centre_street, centre_town, centre_postcode)

CLASS_STAFF(<u>centre_id</u>, <u>class_no</u>, <u>staff_id,</u> staff_class_leader)

STAFF(<u>staff_id</u>, staff_name, staff_first_aid_cert)

<u>Full dependencies</u>

      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(<u>centre_id</u>, <u>class_no</u>, centre_name, class_type, class_desc, facility_room_no, class_start_date_time, class_no_of_sessions)

CLASS_MEMBER(<u>centre_id,</u> <u>class_no,</u> <u>member_no</u>, member_payment_date, member_total_attendance)

MEMBER_SESSION(<u>centre_id</u>, <u>class_no</u>, <u>member_no</u>, <u>session_date</u>, session_attended)

<u>Partial dependencies:</u>

centre_id -> centre_name

2NF

CLASS(<u>centre_id</u>, <u>class_no</u>, class_type, class_desc, facility_room_no, class_start_date_time, class_no_of_sessions)

CENTRE(<u>centre_id,</u> centre_name)

CLASS_MEMBER(<u>centre_id, class_no, member_no,</u> member_payment_date, member_total_attendance)

MEMBER_SESSION(<u>centre_id, class_no, member_no, session_date,</u> session_attended)

<u>Transitive dependencies</u>

No transitive dependencies present

3NF

CLASS(<u>centre_id</u>, <u>class_no</u>, class_type, class_desc, facility_room_no, class_start_date_time, class_no_of_sessions)

CENTRE(<u>centre_id,</u> centre_name)

CLASS_MEMBER(<u>centre_id, class_no, member_no,</u> member_payment_date, member_total_attendance)

MEMBER_SESSION(<u>centre_id, class_no, member_no, session_date,</u> session_attended)

<u>Full dependencies</u>

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(<u>centre_id</u>, <u>class_no</u>, facility_room_no, class_start_date_time, class_no_of_sessions)
2. CENTRE(<u>centre_id</u>, centre_name, centre_street, centre_town, centre_postcode)
3. CLASS_STAFF(<u>centre_id</u>, <u>class_no</u>, <u>staff_id,</u> staff_class_leader)
4. STAFF(<u>staff_id</u>, staff_name, staff_first_aid_cert)
5. CLASS(<u>centre_id</u>, <u>class_no</u>, class_type, class_desc, facility_room_no, class_start_date_time, class_no_of_sessions)
6. CENTRE(<u>centre_id,</u> centre_name)
7. CLASS_MEMBER(<u>centre_id, class_no, member_no,</u> member_payment_date, member_total_attendance)
8. MEMBER_SESSION(<u>centre_id, class_no, member_no, session_date,</u> session_attended)

Attribute synthesis

1 and 5

CLASS(<u>centre_id</u>, <u>class_no</u>, class_type, class_desc, facility_room_no, class_start_date_time, class_no_of_sessions)

2 and 6

CENTRE(<u>centre_id</u>, centre_name, centre_street, centre_town, centre_postcode)

3.

CLASS_STAFF(<u>centre_id</u>, <u>class_no</u>, <u>staff_id,</u> staff_class_leader)

4.

STAFF(<u>staff_id</u>, staff_name, staff_first_aid_cert)

7.

CLASS_MEMBER(<u>centre_id, class_no, member_no,</u> member_payment_date, member_total_attendance)

8.

MEMBER_SESSION(<u>centre_id, class_no, member_no, session_date,</u> session_attended)