**158.337 Assignment Part A Report**

**Group Number: 28**

**Group Member :**

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### 1 brief

In this case, the amount of tables designed is 7 in total, including STAFF, LESSON, CAR, INSPECTION, OFFICE, EXAM, and CLIENT. And 8 potential business rules are designed as section 2.

### 2 Business rules

1. [STAFF - OFFICE] Each staff only has on office room.
2. [EXAM-CLIENT] Exam need one Client\_ID.
3. [EXAM-STAFF] Exam need on Staff\_ID.
4. [CLIENT-OFFICE] Each Client need to register at one office.
5. [CLIENT-LESSON] Each Client need to choose one lesson.
6. [LESSON-STAFF]Each lesson need on staff to teach.
7. [CAR-STAFF]Each car only has one user.
8. [CAR-INSPECTION]Each car need pass inspection.

## 3 Dependency Diagrams

As attached.

## 4 ER grams

As attached.

## 5 Assumption

1. All Client must choose a lesson, if they don’t choose, they should be in the waiting list.
2. All car need to have one staff. Otherwise they should be in car pool.

## 6 DDL

/\* Database Systems, for assignment A \*/

/\*Jinpeiqi 12207549 \*/

/\*

drop table CAR cascade constraints;

drop table CLIENT cascade constraints;

drop table EXAM cascade constraints;

drop table INSPECTION cascade constraints;

drop table LESSON cascade constraints;

drop table OFFICE cascade constraints;

drop table STAFF cascade constraints;

\*/

ALTER SESSION SET NLS\_DATE\_FORMAT = 'MM/DD/YYYY';

CREATE TABLE STAFF(

STA\_NUM int CONSTRAINT STA\_NUM\_PK PRIMARY KEY,

STA\_FNAME varchar2(25)CONSTRAINT NN\_STA\_FNAME NOT NULL,

STA\_LNAME varchar2(25)CONSTRAINT NN\_STA\_LNAME NOT NULL,

STA\_AGE int,

STA\_Tel int,

STA\_Gender varchar2(10),

STA\_ADDRESS varchar2(50),

OFFICE\_NUM int,

INSTRUCTOR\_LEVEL varchar2(25),

Is\_Manage varchar2(10),

Is\_Admin varchar2(10)

);

CREATE TABLE OFFICE(

OFFICE\_NUM int CONSTRAINT OFFICE\_NUM\_PK PRIMARY KEY,

OFFICE\_STREET varchar2(25),

OFFICE\_SUBURB varchar2(25),

OFFICE\_CITY varchar2(25),

OFFICE\_CONTACT int

);

CREATE TABLE CLIENT(

CLIENT\_NUM int CONSTRAINT CLIENT\_NUM\_PK PRIMARY KEY,

CLIENT\_FNAME varchar2(25)CONSTRAINT NN\_CLIENT\_FNAME NOT NULL,

CLIENT\_LNAME varchar2(25)CONSTRAINT NN\_CLIENT\_LNAME NOT NULL,

CLIENT\_AGE int,

CLIENT\_Tel int,

CLIENT\_Gender varchar2(10),

CLIENT\_ADDRESS varchar2(50),

CLIENT\_Lisence varchar2(20),

OFFICE\_NUM int,

Lessone\_ID int

);

CREATE TABLE LESSON(

LESSON\_NUM int CONSTRAINT LESSON\_NUM\_PK PRIMARY KEY,

STA\_NUM int REFERENCES STAFF(STA\_NUM),

LESSON\_START\_TIME date,

MILEAGE int,

LESSON\_TYPE varchar2(25)

);

CREATE TABLE EXAM(

EXAM\_NUM int CONSTRAINT EXAM\_NUM\_PK PRIMARY KEY,

EXAM\_TIME date,

EXAM\_TYPE varchar2(25),

EXAM\_RESULT varchar2(25),

CLIENT\_NUM int REFERENCES CLIENT(CLIENT\_NUM),

STA\_NUM int REFERENCES STAFF(STA\_NUM)

);

CREATE TABLE CAR(

CAR\_NUM int CONSTRAINT CAR\_NUM\_PK PRIMARY KEY,

CAR\_TYPE varchar2(25),

STA\_NUM int REFERENCES STAFF(STA\_NUM)

);

CREATE TABLE INSPECTION(

INSP\_NUM int CONSTRAINT INSP\_DATE\_PK PRIMARY KEY,

CAR\_NUM int REFERENCES CAR(CAR\_NUM),

INSP\_TIME date,

INSP\_RESULT varchar2(25)

);

INSERT INTO STAFF VALUES('1','Jin','Peiqi','22','02108207522','Male','316 Dairy Flat Highway Albany','1','Senior','YES','YES');

INSERT INTO STAFF VALUES('2','Jin1','Peiqi1','23','02108207523','Female','317 Dairy Flat Highway Albany','2','Junior','NO','NO');

INSERT INTO STAFF VALUES('3','Jin2','Peiqi2','24','02108207524','Female','318 Dairy Flat Highway Albany','2','Junior','NO','NO');

INSERT INTO STAFF VALUES('4','Jin3','Peiqi3','25','02108207525','Male','319 Dairy Flat Highway Albany','2','Junior','NO','NO');

INSERT INTO STAFF VALUES('5','Jin4','Peiqi4','23','02108207526','Male','314 Dairy Flat Highway Albany','3','Junior','NO','YES');

INSERT INTO STAFF VALUES('6','Jin5','Peiqi5','24','02108207527','Female','318 Dairy Flat Highway Albany','4','Junior','NO','NO');

INSERT INTO STAFF VALUES('7','Jin6','Peiqi6','50','02108207528','Female','318 Dairy Flat Highway Albany','5','Junior','NO','NO');

INSERT INTO CLIENT VALUES('1','Peiqi','Jin','23','02108207522','Male','100 Dairy Flat Highway Albany','Learner','1','1');

INSERT INTO CLIENT VALUES('2','Peiqi1','Jin1','24','02108207522','Male','101 Dairy Flat Highway Albany','Restricted)','2','2');

INSERT INTO CLIENT VALUES('3','Peiqi2','Jin2','25','02108207522','Female','102 Dairy Flat Highway Albany','Learner','1','3');

INSERT INTO CLIENT VALUES('4','Peiqi3','Jin3','26','02108207522','Male','103 Dairy Flat Highway Albany','Restricted','3','4');

INSERT INTO CLIENT VALUES('5','Peiqi4','Jin4','27','02108207522','Female','104 Dairy Flat Highway Albany','Learner','4','5');

INSERT INTO CLIENT VALUES('6','Peiqi5','Jin5','28','02108207522','Male','105 Dairy Flat Highway Albany','Restricted','5','6');

INSERT INTO OFFICE VALUES('1','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO OFFICE VALUES('2','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO OFFICE VALUES('3','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO OFFICE VALUES('4','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO OFFICE VALUES('5','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO OFFICE VALUES('6','106 Dairy Flat Highway','Albany','Auckland','02108207522');

INSERT INTO CAR VALUES('1','A','4');

INSERT INTO CAR VALUES('2','B','5');

INSERT INTO CAR VALUES('3','C','1');

INSERT INTO CAR VALUES('4','D','3');

INSERT INTO CAR VALUES('5','E','2');

INSERT INTO INSPECTION VALUES('1','1','4/7/2015','PASS');

INSERT INTO INSPECTION VALUES('2','2','4/7/2015','PASS');

INSERT INTO INSPECTION VALUES('3','3','4/7/2015','PASS');

INSERT INTO INSPECTION VALUES('4','4','4/7/2015','PASS');

INSERT INTO INSPECTION VALUES('5','5','4/7/2015','PASS');

INSERT INTO LESSON VALUES('1','1','4/1/2015','5','A');

INSERT INTO LESSON VALUES('2','2','4/1/2015','5','A');

INSERT INTO LESSON VALUES('3','3','4/1/2015','5','B');

INSERT INTO LESSON VALUES('4','1','4/1/2015','5','B');

INSERT INTO LESSON VALUES('5','4','4/1/2015','5','C');

INSERT INTO EXAM VALUES('1','4/7/2015','A','FAIL','1','2');

INSERT INTO EXAM VALUES('2','4/8/2015','A','FAIL','1','2');

INSERT INTO EXAM VALUES('3','4/9/2015','A','PASS','1','2');

INSERT INTO EXAM VALUES('4','4/7/2015','A','PASS','2','2');

INSERT INTO EXAM VALUES('5','4/7/2015','A','PASS','3','3');