# Assignment 1

## Database Concepts

1.1 – No it does not ensure this because there are no known constraints to say that super\_empNo\* needs to be different to emp\_No\*, which means that an employee could potentially supervise themselves. Another possibility is the fact that two or more different supervisors could look after the same employee.

1.2 – It is possible as the department number could be set to null however if the department was set to not null it would need a department to exist to insert the project instance.

A project cannot have many departments as only one department number is asked for as a foreign key. As Project contains the foreign key, defining a relationship between department and project means the relationship will be many projects to one department.

1.3 – It is possible that a supervisor looks after no employees as there is no constraints saying that the supervisor employee number (super\_empNo\*) is any different to the employee number (emp\_No\*) that they are to supervise. If both employees numbers are the same, a supervisor would supervise themselves.

1.4 – No it cannot successfully execute, assuming that the department number of a project cannot be null. If the department number could not be null trying to execute the SQL statement would leave a project or projects hanging.

However, if the department number in the Project relation can be null then you could successfully execute the SQL statement.

2.1 –

Player(player\_no, name, phone, address, city, state, postcode, country)

Team(position\_no, description, sport, address, coach)

Playsfor(player\_no\*,position\_no\*)

2.2 -

DROP TABLE playsfor;

DROP TABLE player;

DROP TABLE team;

PURGE RECYCLEBIN;

CREATE TABLE player

(player\_no INTEGER ,

name VARCHAR(40) ,

phone VARCHAR(40) ,

address VARCHAR(40) ,

city VARCHAR(40) ,

state VARCHAR(40) ,

postcode VARCHAR(40) ,

country VARCHAR(40) ,

PRIMARY KEY (player\_no) );

CREATE TABLE team

(position\_no INTEGE R ,

description VARCHAR(40) ,

sport VARCHAR(40) ,

address VARCHAR(40) ,

coach VARCHAR(40) ,

PRIMARY KEY (position\_no));

CREATE TABLE participates

(player\_no INTEGER ,

position\_no INTEGER ,

PRIMARY KEY (player\_no,position\_no,team\_sport,coach\_name) ,

FOREIGN KEY(player\_no) REFERENCES player(player\_no) ,

FOREIGN KEY(position\_no) REFERENCES team(position\_no));

2.3 -

INSERT INTO player VALUES(103,'Andrew Guy','40.32.2555','54 Rue Royale','Nantes',NULL,'44000','France');

INSERT INTO player VALUES(112,'Simon Stevens','7025551838','8489 Strong St.','Las Vegas','NV','83030','USA');

INSERT INTO player VALUES(119,'Leanne Gills','40.67.8555','67 Rue Des Cinquante Otage','Nantes',NULL,'44000','France');

INSERT INTO player VALUES(121,'Bill Carey','07-98 9555','Erling Skakkes Gate 78','Stavern',NULL,'410','Norway');

INSERT INTO player VALUES(114,'Adam Craft','03 9520 4555','636 St Kilda Road Level 3','Melbourne','Victoria','3004','Australia');

INSERT INTO player VALUES(128,'Ben Court','(49)69 66 90 2555','Lyonerstr. 34','Frankfurt',NULL,'60528','Germany');

INSERT INTO player VALUES(141,'Eddie Carrey','(91)555 94 44','C/moralzarzal 86','Madrid',NULL,'28034','Spain');

INSERT INTO player VALUES(129,'Miley Connar','6505555787','5557 North Pendale Street','San Francisco','CA','94217','USA');

INSERT INTO player VALUES(125,'Hazel Croft','(26)642-7555','ul. Filtrowa 68','Warsawa',NULL,'01-012','Poland');

INSERT INTO player VALUES(124,'Mandy Linn','4155551450','5677 Strong St.','San Rafael','CA','97562','USA');

INSERT INTO player VALUES(231,'Lara Ives','21255557818','897 Long Airport Avenue','NCY','NY','10022','USA');

INSERT INTO team VALUES(10100,'S18\_1749','Tennis','Paris France','Adam Jones');

INSERT INTO team VALUES(10103,'S10\_4325','Football','Melbourne Australia','Mark Fox');

INSERT INTO team VALUES(10167,'S18\_1749','Tennis','Paris France','Will Smith');

INSERT INTO team VALUES(10564,'S24\_1345','Tennis','Paris France','Adam Jones');

INSERT INTO team VALUES(10732,'S11\_9087','Football','Melbourne Australia','Mark Lee');

INSERT INTO team VALUES(10897,'S18\_4409','Football','Melbourne Australia','Cameron Box');

INSERT INTO team VALUES(10903,'S21\_4532','Rugby','Frankfurt Germany','Bill Green');

INSERT INTO team VALUES(11045,'S17\_2091','Cricket','Los Angeles USA','Sam Will');

INSERT INTO team VALUES(11412,'S18\_3409','Tennis','Paris France','Will Smith');

INSERT INTO team VALUES(11453,'S24\_1345','Polo','Paris France','Amanda Kay');

INSERT INTO team VALUES(11509,'S20\_9083','Polo','Paris France','Judith Max');

INSERT INTO team VALUES(11897,'S18\_5690','Basketball','New York USA','Max Williams');

INSERT INTO team VALUES(12098,'S12\_2795','Cricket','Los Angeles USA','Sam Will');

INSERT INTO team VALUES(12345,'S19\_2313','Baseball','New York USA','Bob Karl');

INSERT INTO team VALUES(12945,'S20\_9083','Baseball','New York USA','Karl Marx');

INSERT INTO team VALUES(13209,'S21\_5092','Basketball','New York USA','Max Williams');

INSERT INTO team VALUES(13456,'S12\_8904','Cricket','Los Angeles USA','Sam Will');

INSERT INTO team VALUES(14321,'S22\_4501','Tennis','Paris France','Will Smith');

INSERT INTO playsfor VALUES(103,10100);

INSERT INTO playsfor VALUES(103,10103);

INSERT INTO playsfor VALUES(112,10167);

INSERT INTO playsfor VALUES(119,10564);

INSERT INTO playsfor VALUES(121,10732);

INSERT INTO playsfor VALUES(114,10897);

INSERT INTO playsfor VALUES(128,10903);

INSERT INTO playsfor VALUES(141,11045);

INSERT INTO playsfor VALUES(129,11412);

INSERT INTO playsfor VALUES(119,11453);

INSERT INTO playsfor VALUES(125,11509);

INSERT INTO playsfor VALUES(119,11897);

INSERT INTO playsfor VALUES(124,12098);

INSERT INTO playsfor VALUES(119,12345);

INSERT INTO playsfor VALUES(231,12945);

INSERT INTO playsfor VALUES(129,13209);

INSERT INTO playsfor VALUES(124,13456);

INSERT INTO playsfor VALUES(129,14321);

SELECT player.player\_no,player\_name,phone,address,city,state,

postcode,country,team.position\_no,position\_description,team.team\_sport,

teamaddress,team.coach\_name

FROM player

LEFT JOIN playsfor

ON player.player\_no = playsfor.player\_no

LEFT JOIN team

ON playsfor.position\_no = team.position\_no;

3.1 -

SELECT title

FROM academic

WHERE title IS NOT NULL

GROUP BY title;

3.2 -

SELECT famname, givename, initials

FROM academic

ORDER BY famname DESC, givename DESC, initials DESC;

3.3 -

SELECT instname, deptname

FROM department

WHERE LOWER(state) = 'vic'

OR LOWER(state) = 'tas';

3.4 -

SELECT givename, famname

FROM academic

WHERE RTRIM(givename) LIKE '%y';

3.5 -

SELECT COUNT(\*)

FROM paper

WHERE LOWER(title) LIKE '%data %';

3.6 -

SELECT \*

FROM academic, author

WHERE LOWER(famname) LIKE '%pr%'

ORDER BY panum DESC;

3.7 -

SELECT \*

FROM academic;

3.8 -

SELECT acnum

FROM academic, department

WHERE descrip LIKE '%CS%'

ORDER BY acnum;

3.9 –

SELECT fieldnum, title

FROM field

WHERE (fieldnum < 600 OR fieldnum > 700)

AND UPPER(title) LIKE '%DATA'

ORDER BY fieldnum DESC;

3.10 –

I believe the query is asking to find how many unique fields have more than one academic interested in.

4 – Some of my assumptions include:

* A therapist does not need a patient, but can also look after many patients
* Each patient can be treated by zero therapists but can also be treated by many therapists.
* All relationships in this diagram (Treats, Roster, Contact) are assumed to have both primary keys from both entities they have a relationship with.

A screenshot of a cell phone

Description automatically generated