## 

## ISEM 3006 Data Management in Business

## Semester 1, 2020/2021

## Group Assignment

## Section 1

### 

### Group 15

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In this Assignment, we created 8 tables. which are :

|  |  |  |  |
| --- | --- | --- | --- |
| gymnast  gymnast\_no (PK)  gymnast\_name gymnast\_age  gymnast\_gender  gymnast\_ph\_no | staff  staff\_id (PK)  staff\_name  staff\_age  staff\_gender  staff\_ph\_no  staff\_salary  staff\_position | competitive\_team  team\_level (PK)  min\_age\_req  monthly\_fee  staff\_id (FK) | gymnast\_team\_record  gymnast\_no (PK)(FK1)  team\_level (PK)(FK2)  joining\_date  leaving\_date |
| private\_lesson  staff\_id (PK)(FK1)  gymnast\_no(PK)(FK2)  lesson\_date(PK)  lesson\_start\_time(PK)  lesson\_duration | gymnastics\_meet  meet\_id (PK)  meet\_date  meet\_start\_time  meet\_location  meet\_fee | gymnast\_meet\_record  meet\_id (PK)(FK1)  gymnast\_no (PK)(FK2)  gymnast\_scores | monthly\_bill  bill\_id (PK)  gymnast\_no (FK)  issue\_date  due\_date |

Entity Definition Sheet

**gymnast**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| gymnast | gymnast information | gymnast\_no | gymnast\_no (PK)  gymnast\_name gymnast\_age  gymnast\_gender  gymnast\_ph\_no |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| gymnast\_no | A unique code which is used to identify gymnast | Integer | 6 |  | NOT NULL |
| gymnast\_name | name of gymnast | Character | 30 |  |  |
| gymnast\_age | age of gymnast | Integer | 2 |  |  |
| gymnast\_gender | Gender of gymnast | Character | 1 | "f" or "m" |  |
| gymnast\_ph\_no | phone number of gymnast | Integer | 8 |  |  |

**staff**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| staff | Staff information | staff\_id | staff\_id  staff\_name  staff\_age  staff\_gender  staff\_ph\_no  staff\_salary  staff\_position |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| staff\_id | A unique code which is used to identify Staff | Integer | 6 |  | NOT NULL |
| staff\_name | name of Staff | Character | 30 | 0 ~14 |  |
| staff\_age | age of Staff | Integer | 2 |  |  |
| staff\_gender | Gender of Staff | Character | 1 | "f" or "m" |  |
| staff\_ph\_no | phone number of Staff | Integer | 8 |  |  |
| staff\_salary | salary of Staff | Integer | 6 |  |  |
| staff\_position | position of Staff | Character | 30 |  |  |

**competitive\_teams**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| Competitive Teams | Competitive Teams information | team\_level | team\_level  min\_age\_req  monthly\_fee  staff\_id |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| team\_level | Team Level | Integer | 2 | 1 ~10 | NOT NULL |
| min\_age\_req | Min Age Requirement for the level | Integer | 2 |  |  |
| monthly\_fee | Monthly Fee | Integer | 4 |  |  |
| staff\_id | the Coach (Staff) of the level | Integer | 6 |  |  |

**gymnast\_team\_record**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| gymnast team record | the record of gymnast joining the Competitive Teams | gymnast\_no +  Team Level | gymnast\_no  Team\_Level  joining\_date  leaving\_date |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| gymnast\_no | A unique code which is used to identify gymnast | Integer | 6 |  | NOT NULL |
| Team\_Level | Team Level | Integer | 2 | 1 ~10 |  |
| joining\_date | the date of joining this level | date |  |  | DATE() |
| leaving\_date | the date of leaving this level | date |  |  | DATE() |

**private\_lesson**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| private\_lesson | the private lessons provide by staff | staff\_id +  gymnast\_no +  lesson\_date +  lesson\_start\_time | staff\_id  gymnast\_no  lesson\_date  lesson\_start\_time  lesson\_duration |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| staff\_id | who provide the lesson | Integer | 6 |  | NOT NULL |
| gymnast\_no | who join the lesson | Integer | 6 |  |  |
| lesson\_date | the date of lesson | date |  |  | DATE() |
| start\_time | the start time of lesson | TIME |  |  | TIME() |
| lesson\_duration | lesson duration | Integer | 1 |  |  |

**gymnastics\_meet**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| Gymnastics Meet | Competitive team gymnasts compete in gymnastics | meet\_id | meet\_id (pk)  meet\_date  meet\_start\_time  meet\_location  meet\_fee |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| meet\_id | A unique code which is used to identify meet | Integer | 9 |  | NOT NULL |
| meet\_date | the date of meet | date |  |  | DATE() |
| meet\_start\_time | the start time of meet | date |  |  | TIME() |
| meet\_location | where the meet held | Character | 30 |  |  |
| meet\_fee | the fee of meet | Integer | 3 |  |  |

**gymnast\_meet\_record**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| gymnast meet record | the record of gymnast joining meet | meet\_id+  gymnast\_no | meet id  gymnast\_no  gymnast\_scores |

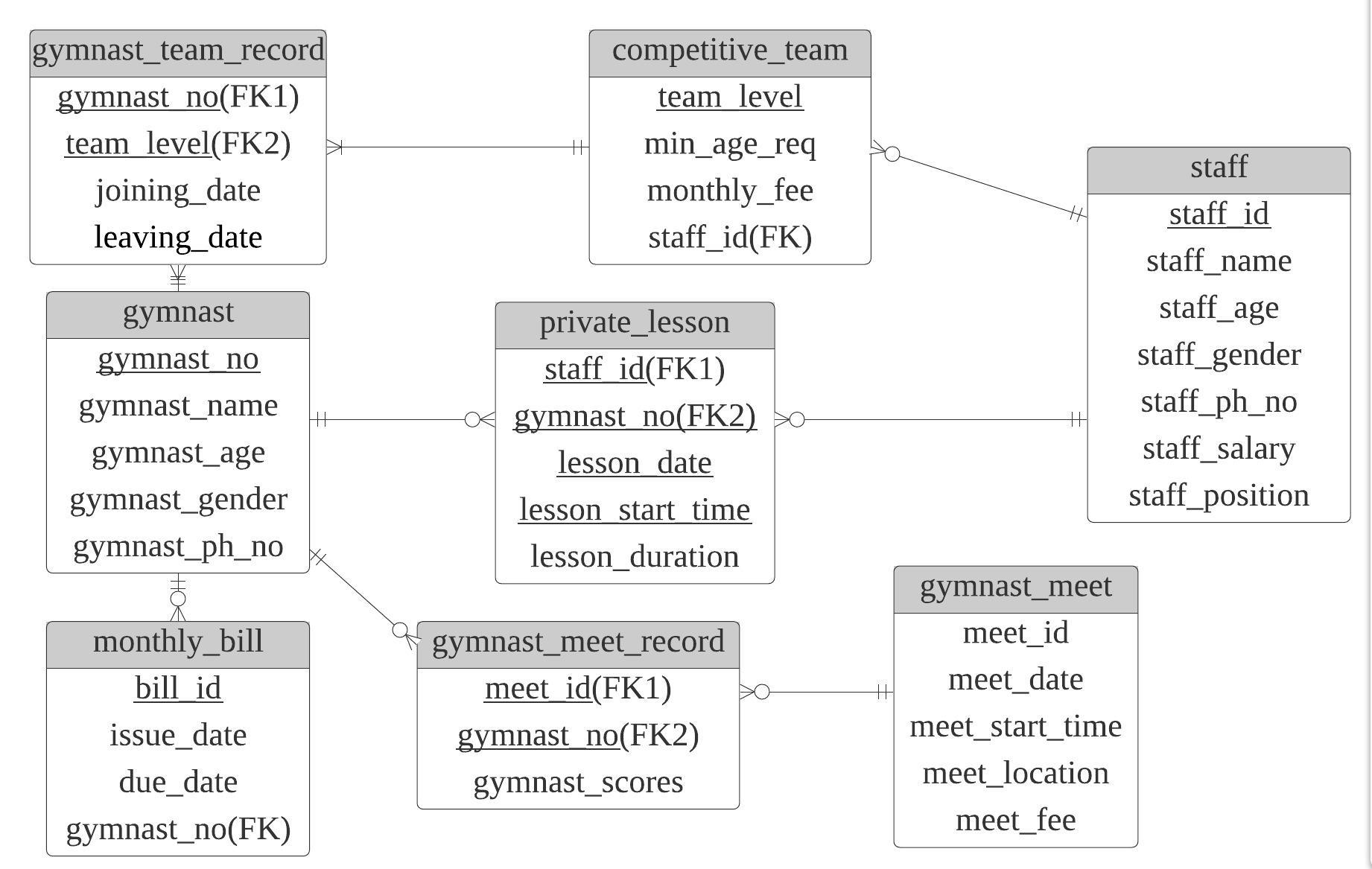
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| meet\_id | A unique code which is used to identify meet | Integer | 6 |  | NOT NULL |
| gymnast\_no | who join the meet | Integer | 6 |  |  |
| gymnast\_scores | the scores for gymnast in this meet | Integer | 2 | 0 ~ 50 |  |

**monthly\_bill**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity name | Business Definition | Primary Key | Attributes |
| Monthly Bill | Monthly Bill | bill\_id | bill\_id  gymnast\_no  issue\_date  due\_date |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Data Type | Length | Domain |  |
| bill\_id | A unique code which is used to identify Monthly Bill | Integer | 9 |  | NOT NULL |
| gymnast\_no | who get the bill | Integer | 6 |  |  |
| issue\_date | the issue date of the bill | date |  |  | DATE() |
| due\_date | the due date of the bill | date |  |  | DATE() |

ER Diagram



Description and Assumption

gymnast

For each gymnast, he or she must have at least one gymnast\_team\_record.

It is because when they join the club, they should be in level 1 gymnast\_team.

Also they may have 0 to more than 0 monthly\_bill record, private\_lesson record and gymnast\_meet\_record.

It is because when they join the club, they may not have a monthly\_bill, join private\_lesson and join gymnast\_meet yet.

staff

For each staff, because he or she may not be a Coach, he may have 0 to more than 0 private\_lesson records. Also he may be 0 to more than 0 team leader for the competitive\_team.

competitive\_team

For each team, there should be one and only one Coach.also it should be at least one gymnast\_meet\_record.

gymnastics\_meet

For each meet, he may have 0 to more than 0 join record, we assume that there is some meeting on one join.

private\_lesson

For each private\_lesson, it should have only one Coach and gymnast.

gymnast\_meet\_record

For each gymnast\_meet\_record, it should reference only one meet and gymnast.

gymnast\_team\_record

For each gymnast\_meet\_record, it should reference only one team and gymnast.

monthly\_bill

For each monthly\_bill, it should reference only one gymnast.

Create Table Order

1. gymnast
2. staff
3. competitive\_team
4. gymnastics\_meet
5. private\_lesson
6. gymnast\_meet\_record
7. gymnast\_team\_record
8. monthly\_bill

Code for Creating table and Inserting Records

|  |
| --- |
| /\* The following SQL statements create the tables and insert the data. \*/  DROP TABLE IF EXISTS gymnast CASCADE;  DROP TABLE IF EXISTS staff CASCADE;  DROP TABLE IF EXISTS competitive\_team CASCADE;  DROP TABLE IF EXISTS gymnastics\_meet CASCADE;  DROP TABLE IF EXISTS private\_lesson CASCADE;  DROP TABLE IF EXISTS gymnast\_team\_record CASCADE;  DROP TABLE IF EXISTS gymnast\_meet\_record CASCADE;  DROP TABLE IF EXISTS monthly\_bill CASCADE;  CREATE TABLE gymnast (  gymnast\_no NUMERIC(6) NOT NULL,  gymnast\_name char(30) NOT NULL,  gymnast\_age NUMERIC(2) ,  gymnast\_gender char(1) CHECK (gymnast\_gender='m' OR gymnast\_gender='f'),  gymnast\_ph\_no NUMERIC(8) NOT NULL,  PRIMARY KEY (gymnast\_no)  );  CREATE TABLE staff (  staff\_id NUMERIC(6) NOT NULL,  staff\_name char(30) NOT NULL,  staff\_age NUMERIC(2) ,  staff\_gender char(1) CHECK (Staff\_gender='m' OR Staff\_gender='f'),  staff\_ph\_no NUMERIC(8) NOT NULL,  staff\_salary NUMERIC(6),  staff\_position char(30),  PRIMARY KEY (Staff\_id)  );  CREATE TABLE competitive\_team (  team\_level NUMERIC(2) NOT NULL CHECK (team\_level BETWEEN 1 AND 10),  min\_age\_req NUMERIC(2) NOT NULL,  monthly\_fee NUMERIC(6) ,  staff\_id NUMERIC(6) ,  PRIMARY KEY (team\_level),  FOREIGN KEY (staff\_id) REFERENCES staff(staff\_id) ON DELETE SET NULL  );  CREATE TABLE gymnastics\_meet (  meet\_id NUMERIC(9) NOT NULL,  meet\_date DATE NOT NULL,  meet\_start\_time TIME ,  meet\_location char(30) ,  meet\_fee NUMERIC(3),  PRIMARY KEY (meet\_id)  );  CREATE TABLE private\_lesson (  staff\_id NUMERIC(6) NOT NULL,  gymnast\_no NUMERIC(6) NOT NULL,  lesson\_date DATE NOT NULL,  lesson\_start\_time TIME NOT NULL,  lesson\_duration NUMERIC(1),  PRIMARY KEY (staff\_id, gymnast\_no, lesson\_date, lesson\_start\_time),  FOREIGN KEY (staff\_id) REFERENCES staff(staff\_id) ON DELETE CASCADE,  FOREIGN KEY (gymnast\_no) REFERENCES gymnast(gymnast\_no) ON DELETE CASCADE  );  CREATE TABLE gymnast\_team\_record (  gymnast\_no NUMERIC(6) NOT NULL,  team\_level NUMERIC(2) NOT NULL CHECK (team\_level BETWEEN 1 AND 10),  joining\_date DATE,  leaving\_date DATE,  PRIMARY KEY (gymnast\_no, team\_level),  FOREIGN KEY (team\_level) REFERENCES competitive\_team(team\_level) ON DELETE CASCADE,  FOREIGN KEY (gymnast\_no) REFERENCES gymnast(gymnast\_no) ON DELETE CASCADE  );  CREATE TABLE gymnast\_meet\_record (  meet\_id NUMERIC(9) NOT NULL,  gymnast\_no NUMERIC(6) NOT NULL,  gymnast\_scores NUMERIC(2) NOT NULL CHECK (gymnast\_scores BETWEEN 0 AND 50),  PRIMARY KEY (meet\_id,gymnast\_no),  FOREIGN KEY (meet\_id) REFERENCES gymnastics\_meet(meet\_id) ON DELETE CASCADE,  FOREIGN KEY (gymnast\_no) REFERENCES gymnast(gymnast\_no) ON DELETE CASCADE  );  CREATE TABLE monthly\_bill (  bill\_id NUMERIC(9) NOT NULL,  gymnast\_no NUMERIC(6) NOT NULL,  issue\_date DATE,  due\_date DATE,  PRIMARY KEY (bill\_id),  FOREIGN KEY (gymnast\_no) REFERENCES gymnast(gymnast\_no) ON DELETE CASCADE  );  /\* The following statements insert records into the tables \*/    INSERT INTO gymnast VALUES (172100,'Leo Lee',15,'m',12345678);  INSERT INTO gymnast VALUES (172101,'Partick Chiu',12,'m',12346789);  INSERT INTO gymnast VALUES (172102,'Gordon Tam',12,'m',12345670);  INSERT INTO gymnast VALUES (172103,'Linus Cheung',13,'m',12345671);  INSERT INTO gymnast VALUES (172104,'Kitty Wong',16,'f',12345672);  INSERT INTO gymnast VALUES (172105,'Kathy Cheung',14,'f',12345673);  INSERT INTO gymnast VALUES (172106,'Tina Wong',10,'f',12345674);  INSERT INTO gymnast VALUES (172107,'Andy Chan',8,'m',12345675);  INSERT INTO gymnast VALUES (172108,'Jaco Lam',9,'m',12345676);  INSERT INTO gymnast VALUES (172109,'Elsa Chan',10,'f',12345677);    INSERT INTO staff VALUES (2001,'Holmes Wong',32,'m',56781230,20000,'Coach');  INSERT INTO staff VALUES (2002,'Peter Yip',26,'m',56781231,18000,'Coach');  INSERT INTO staff VALUES (2003,'Ross Siu',30,'m',56781232,17000,'Customer Service Officer');  INSERT INTO staff VALUES (2004,'Yandy Wong',23,'f',56781233,14000,'Helper');  INSERT INTO staff VALUES (2005,'Charles Wong',23,'m',56781234,14000,'Helper');  INSERT INTO staff VALUES (2006,'Billy Chan',35,'m',56781235,20000,'Coach');  INSERT INTO staff VALUES (2007,'Sherry Lin',22,'f',56781236,17000,'Accountant');  INSERT INTO staff VALUES (2008,'Alan Cheung',24,'m',56781237,13000,'Helper');  INSERT INTO staff VALUES (2009,'Jenny Cheung',28,'f',56781238,15000,'Management Trainee');  INSERT INTO staff VALUES (2010,'Coco Tang',25,'f',56781239,18000,'Coach');  INSERT INTO staff VALUES (2011,'Johnson Wong',32,'m',56781240,13000,'Helper');  INSERT INTO staff VALUES (2012, 'Kristen Wong',32,'f',56781241,20000,'Coach');  INSERT INTO staff VALUES (2013,'Annie Wong',30,'f',56781242,22000,'Office Manager');  INSERT INTO competitive\_team VALUES (1,0,1300,2001);  INSERT INTO competitive\_team VALUES (2,0,1500,2001);  INSERT INTO competitive\_team VALUES (3,0,1500,2001);  INSERT INTO competitive\_team VALUES (4,6,2000,2002);  INSERT INTO competitive\_team VALUES (5,7,2300,2002);  INSERT INTO competitive\_team VALUES (6,8,2300,2006);  INSERT INTO competitive\_team VALUES (7,10,2600,2010);  INSERT INTO competitive\_team VALUES (8,12,2750,2012);  INSERT INTO competitive\_team VALUES (9,12,3250,2012);  INSERT INTO competitive\_team VALUES (10,14,3250,2012);  INSERT INTO gymnast\_team\_record VALUES (172100,2,'2020-1-3',Null);  INSERT INTO gymnast\_team\_record VALUES (172102,2,'2019-11-15',Null);  INSERT INTO gymnast\_team\_record VALUES (172103,3,'2020-3-10',Null);  INSERT INTO gymnast\_team\_record VALUES (172106,4,'2019-12-4',Null);  INSERT INTO gymnast\_team\_record VALUES (172107,8,'2019-4-15',Null);  INSERT INTO gymnast\_team\_record VALUES (172109,7,'2019-7-8','2020-12-21');    INSERT INTO private\_lesson VALUES (2001,172103,'2020-1-7','13:30:00',3);  INSERT INTO private\_lesson VALUES (2001,172107,'2020-1-7','13:30:00',3);  INSERT INTO private\_lesson VALUES (2010,172101,'2020-10-12','12:30:00',4);  INSERT INTO private\_lesson VALUES (2012,172106,'2020-5-10','11:30:00',6);    INSERT INTO gymnastics\_meet VALUES (8001,'2020-2-8','12:00:00','Yuen Long Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8002,'2020-2-22','13:00:00','Long Ping Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8003,'2020-3-7','11:00:00','Tin Shui Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8004,'2020-3-21','11:00:00','Tin Shui Wai Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8005,'2020-4-11','14:00:00','Tin Fai Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8006,'2020-4-25','12:00:00','Ping Shan Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8007,'2020-5-16','13:00:00','Yeung Uk Road Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8008,'2020-5-30','12:00:00','Tsuen Wan West Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8009,'2020-6-13','11:00:00','Tsuen Wan Sports Centre',100);  INSERT INTO gymnastics\_meet VALUES (8010,'2020-6-27','12:00:00','Wai Tsuen Sports Centre',100);    INSERT INTO gymnast\_meet\_record VALUES (8001,172100,30);  INSERT INTO gymnast\_meet\_record VALUES (8001,172102,20);  INSERT INTO gymnast\_meet\_record VALUES (8001,172106,30);  INSERT INTO gymnast\_meet\_record VALUES (8001,172107,10);  INSERT INTO gymnast\_meet\_record VALUES (8002,172102,20);  INSERT INTO gymnast\_meet\_record VALUES (8002,172103,10);  INSERT INTO gymnast\_meet\_record VALUES (8002,172106,40);  INSERT INTO gymnast\_meet\_record VALUES (8002,172107,10);  INSERT INTO gymnast\_meet\_record VALUES (8003,172100,20);  INSERT INTO gymnast\_meet\_record VALUES (8003,172107,10);  INSERT INTO gymnast\_meet\_record VALUES (8003,172109,40);  INSERT INTO gymnast\_meet\_record VALUES (8004,172102,10);  INSERT INTO gymnast\_meet\_record VALUES (8004,172103,20);  INSERT INTO gymnast\_meet\_record VALUES (8004,172106,20);  INSERT INTO gymnast\_meet\_record VALUES (8004,172109,40);  INSERT INTO gymnast\_meet\_record VALUES (8005,172100,20);  INSERT INTO gymnast\_meet\_record VALUES (8005,172103,20);  INSERT INTO gymnast\_meet\_record VALUES (8005,172106,20);  INSERT INTO gymnast\_meet\_record VALUES (8005,172107,30);  INSERT INTO gymnast\_meet\_record VALUES (8005,172109,30);  INSERT INTO gymnast\_meet\_record VALUES (8006,172100,10);  INSERT INTO gymnast\_meet\_record VALUES (8006,172102,20);  INSERT INTO gymnast\_meet\_record VALUES (8006,172103,20);  INSERT INTO gymnast\_meet\_record VALUES (8006,172107,20);  INSERT INTO gymnast\_meet\_record VALUES (8007,172102,10);  INSERT INTO gymnast\_meet\_record VALUES (8007,172103,20);  INSERT INTO gymnast\_meet\_record VALUES (8007,172106,20);  INSERT INTO gymnast\_meet\_record VALUES (8007,172107,30);  INSERT INTO gymnast\_meet\_record VALUES (8007,172109,40);  INSERT INTO gymnast\_meet\_record VALUES (8008,172102,20);  INSERT INTO gymnast\_meet\_record VALUES (8008,172103,30);  INSERT INTO gymnast\_meet\_record VALUES (8008,172106,30);  INSERT INTO gymnast\_meet\_record VALUES (8008,172109,40);  INSERT INTO gymnast\_meet\_record VALUES (8009,172100,20);  INSERT INTO gymnast\_meet\_record VALUES (8009,172103,30);  INSERT INTO gymnast\_meet\_record VALUES (8009,172107,30);  INSERT INTO gymnast\_meet\_record VALUES (8009,172109,40);  INSERT INTO gymnast\_meet\_record VALUES (8010,172102,30);  INSERT INTO gymnast\_meet\_record VALUES (8010,172103,30);  INSERT INTO gymnast\_meet\_record VALUES (8010,172106,40);  INSERT INTO gymnast\_meet\_record VALUES (8010,172107,30);  INSERT INTO gymnast\_meet\_record VALUES (8010,172109,30);  INSERT INTO monthly\_bill VALUES (7001,172100,'2020-12-7','2020-12-31');  INSERT INTO monthly\_bill VALUES (7002,172101,'2020-12-7','2020-12-31');  INSERT INTO monthly\_bill VALUES (7003,172102,'2020-12-7','2020-12-31');  INSERT INTO monthly\_bill VALUES (7004,172103,'2020-4-7','2020-4-30');  INSERT INTO monthly\_bill VALUES (7005,172106,'2020-12-7','2020-12-31');  INSERT INTO monthly\_bill VALUES (7006,172107,'2020-12-7','2020-12-31');  INSERT INTO monthly\_bill VALUES (7007,172109,'2020-12-7','2020-12-31'); |

**SQL SELECT STATEMENTS**

a)

SELECT DISTINCT G1.gymnast\_no,G1.gymnast\_name

FROM gymnast\_meet\_record MR1 JOIN gymnast G1

ON MR1.gymnast\_no = G1.gymnast\_no

JOIN gymnastics\_meet M1

ON MR1.meet\_id = M1.meet\_id

WHERE M1.meet\_date BETWEEN '2020-2-1' and '2020-2-29'

ORDER BY gymnast\_name;

Result:

|  |  |
| --- | --- |
| gymnast\_no | gymnast\_name |
| 172107  172102  172100  172103  172106 | Andy Chan  Gordon Tam  Leo Lee  Linus Cheung  Tina Wong |

b)

SELECT G1.meet\_id,GM1.meet\_location

FROM gymnast\_meet\_record G1 JOIN gymnast\_team\_record GR1

ON G1.gymnast\_no = GR1.gymnast\_no

JOIN gymnasticS\_meet GM1

ON G1.meet\_id = GM1.meet\_id

WHERE GR1.team\_level = 3

AND G1.meet\_id NOT IN

(SELECT G1.meet\_id FROM gymnast\_meet\_record G1 JOIN gymnast\_team\_record GR1

ON G1.gymnast\_no = GR1.gymnast\_no WHERE GR1.team\_level = 8 );

Result:

|  |  |
| --- | --- |
| Meet\_id | Meet\_location |
| 8004 | Tin Shui Wai Sports Centre |
| 8008 | Tsuen Wan West Sports Centre |

c)

SELECT G1.gymnast\_no, G1.gymnast\_name, AVG(gymnast\_scores) AS "AverageScore"

FROM gymnast G1 JOIN gymnast\_meet\_record GR1

ON G1.gymnast\_no = GR1.gymnast\_no JOIN gymnastics\_meet GM1

ON GR1.meet\_id = GM1.meet\_id

WHERE GM1.meet\_date BETWEEN CURRENT\_DATE-interval'1 year' and CURRENT\_DATE

GROUP BY G1.gymnast\_no

HAVING COUNT(G1.gymnast\_no) > 1 AND AVG(gymnast\_scores) > 20;

Result:

|  |  |  |
| --- | --- | --- |
| gymnast\_no | gymnast\_name | AverageScore |
| 172103 | Linus Cheung | 22.5000000000000000 |
| 172106 | Tina Wong | 28.5714285714285714 |
| 172107 | Andy Chan | 21.2500000000000000 |
| 172109 | Elsa Chan | 37.1428571428571429 |

d)

SELECT S1.staff\_id,S1.staff\_name

FROM staff S1 JOIN private\_lesson PL1

ON S1.staff\_id = PL1.staff\_id

JOIN gymnast\_team\_record GR1

ON PL1.gymnast\_no = GR1.gymnast\_no

WHERE S1.staff\_id IN

(

SELECT staff\_id

FROM gymnast\_team\_record GR1 JOIN private\_lesson PL1

ON GR1.gymnast\_no = PL1.gymnast\_no

WHERE team\_level = 4 );

Result:

|  |  |
| --- | --- |
| staff\_id | staff\_name |
| 2012 | Kristen Wong |