INFO90002 S1 2024

Assignment 2 - SQL

Due: see LMS

Submission: Via the Canvas LMS

Weighting: 10% of your total assessment (Graded out of 200 marks)

Events Management Co

Event Management Co is managing various competition events in various categories, such as Lego construction, Game programming, Bush walking to name a few. Each year there are several events each of which is managed by a committee. Committee members are staff of the company with the relevant skill set. He company manages lists of participants for each event. Also since each event has its own t-shirt as participants' uniform, the participants need to specify the t-shirt size. The ERD model is depicted on Figure 1.

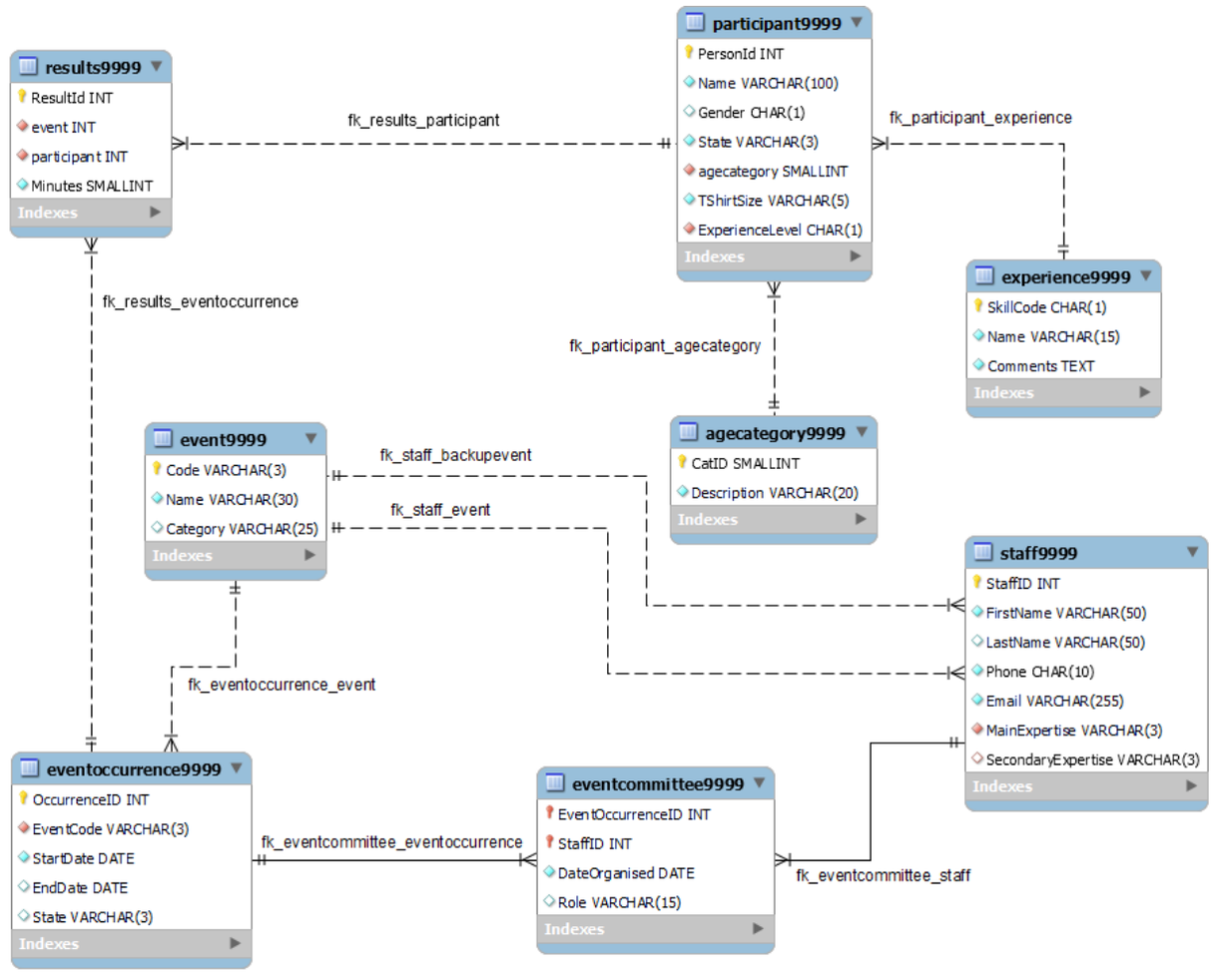


Figure 1. Data Model for Events Management Co

Instructions

1. **Rename all tables** to have the last 4 digits in table names the same as the last 4 digits of your student ID

- **Download** the files named **A2Script_2024s2_LOCAL.sql** and **A2Script_2024s2_ENG.sql** from the **LMS**.
- Open each file in a text editor, e.g. in MySQL Workbench, Notepad, Notepad++ or some other text editor
- Change all occurrences of **9999** to **the last 4 digits of your student ID** (one way to do this is to perform a **find and replace).** For example, if your student ID is 12349876, your tables will get renamed as event9876, staff9876, results9876, etc.

  Make sure you rename tables in BOTH files.

  Note, if renaming is not done, you cannot get full marks, a heavy penalty of 50% will be applied.

2. Run the script on the engineering server (and / or on your local MySQL server). This will create the communityevents database with all required tables and populate them with data.

3. Write the following SQL statement and execute it.

```
SELECT '123459999' as StuID, event9999.*
FROM event9999
```

(Note that in the above statement 123459999 should be replaced with **your** Student ID and both occurrences of 9999 would be last 4 digits of your student ID, as in step 1 above)

Notice how each row contains your student id and all attributes from the event9999 table.

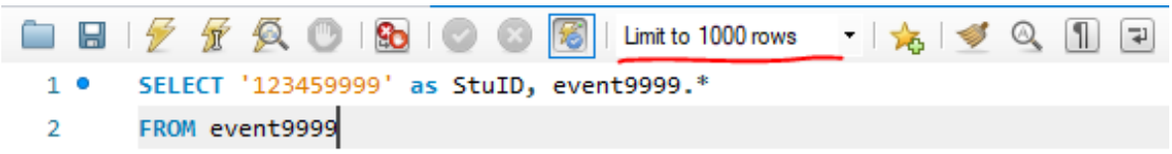
	StuID	Code	Name	Category
▶	123459999	3DM	3D Model Building	Problem solving
	123459999	BW	Bush Walking	Physical challenge
	123459999	CCC	Bike Cross Country Crusade	Physical challenge
	123459999	GP	Game Programming	Problem solving
	123459999	HP	Happy Runners	Physical challenge
	123459999	JP	Jigsaw Puzzles 3000	Problem solving
	123459999	LSB	Lego sculpture building	Problem solving
	123459999	SS	Solving Sudoku	Problem solving

You are expected to *include your student ID* in all queries

It is expected that

- **your script will produce correct results**
- **your code meets standards of quality as discussed in lectures**
- **your code runs on the university engineering server**

2 tables in this database have more than 1000 rows (in fact one has around 2000 and another close to 3000 rows). The default setting of MySQL is to limit results to 1000 rows.



While we do not expect more than 1000 results for the queries you need to create, while exploring the contents of the tables you may want to see all results and therefore you may want to set the limit to 5000 rows.

The task:

Write a single SQL statement to answer the following questions. **Do not use** inline views / schema on read, views unless explicitly instructed to do so. Views, inline views and schema on read for Q1-Q9 will **earn 0 marks**.

If your result set is less than 10 rows, show ALL results. If it is longer, show at least 10 rows (a couple of rows extra is not a problem). Specify how many results were returned in red font under the screenshot.

Questions

1. 1. List all events that happened or are scheduled to run in Tasmania and Victoria in the alphabetical order of event name within each state. Your list should show event code, name, state and year of the event. Note, you can base event year of the start date of an event. You need to check how states are stored in the database.

   (10 marks)

2. List all events where Danielle Martin was a member of the organising committee. Your results should display her staff id, full name in column as last name and first name separated by a comma (i.e. Martin, Danielle), her role on the committee (e.g. Chair, Treasurer), name of the event she was organising, the event occurrence ID and event occurrence start date. The list should be ordered by event name alphabetically and event start date from newest to oldest (i.e. from year 2024 down).

   (15 marks)

3. How many participants of each gender in each state are stored in the system? Your list should display State, gender and number of participants in the descending order of participant numbers within each state.

   (15 marks)

4. Count staff participation in committees, i.e. how many committees each staff member participated in and list the ones who participated in 6 or more committees. The results should display staff ID, staff full name as first and last, and number of committees they participated in, ordered by the number of committees.

   (15 marks)

5. List all participants who participated in an event in 2022 but not in any event in 2023. Your list should display participant ID and name and be ordered by participant ID.

   (20 marks)

6. Count participants in each future event (i.e. participants who signed up for events scheduled for after the day when we run this query). Your results should show occurrence number, event name, event start date and number of participants. Events without signed up participants will show 0. The list should be ordered in the order of participants numbers from highest to lowest.

(20 marks)

7. List staff members who are chairs of "Solving sudoku" or "Game programming" events. Your list should show staff full name as a combination of first and last name, email and role.

(15 marks)

8. 8. Count how many t-shirts of each size was distributed to participants in each event occurrence. Your results should be ordered by year of the event occurrence, then by t-shirt size within each event name. The results table should show event occurrence ID, event year, event name, and number of t-shirts in each size, e.g.

StuID	event	Event_Year	Name	TshirtSize	No_Of_Tshirts
123459999	5	2022	3D Model Building	L	24
123459999	5	2022	3D Model Building	M	32
123459999	5	2022	3D Model Building	S	8
123459999	6	2022	Bush walking	L	31
123459999	6	2022	Bush walking	M	27

Note the results in the table above are fictitious, it is just to illustrate the layout. The attribute of event occurrence ID is named event in the Results table.

(25 marks)

9. List participants who took part in all 'Game Programming' events that ran in the past 2 years (currently 2022 and 2023, however your query should work in the future). Your list should show participant ID and name and event name ('Game Programming') and should be ordered by participant name alphabetically.

(25 marks)

10. List all physical events (i.e. involving physical activity as identified by its category) and associated number of participants over years (e.g. number of participants in all bush walking events over years). Your list should display event code and name, its category (involving keyword 'physical") and associated number of participants. The results should be ordered by increasing numbers of participants (i.e. events with lower number of participants first).

(15 marks)

11.

a. Write the SQL DDL to create a view that lists age category description and number of participants in each age category across all events.

Do not include StuID in this view.

In addition to the code, you need to provide 2 screenshots

– the list of tables and views from the left pane of Workbench showing your created view and
– the results of running SELECT from your View (we recommend explicitly showing SELECT statement used to create the View).

(10 marks)

b. Using the View you created in Task 10a, list the age group(s) with the lowest number of participants. Your query needs to display description and the number of participants.

You **must** include your student ID in task b.

(15 marks)

Submission Details:

Submit a single PDF showing your answers to all questions

Please **make sure that you actually submit** your file on Canvas. After uploading the file, click on '**Submit** Assignment' to actually submit your file. If you submit late because you failed to press the submit button and only noticed this after the deadline, your submission will be considered late just like any other late submission to maintain fairness for all students.

Specify your student name and ID at the top of your answer document.

Formatting requirements for your submission

For each question, present an answer in the following format:

- Show the question number and question in **black** text.
- Show your answer (the SQL statement) in **blue** text **(DO NOT use a screen shot)**
- Show a screenshot of the result from Workbench. If your result set is less than 10 rows, show ALL results. If it is longer, show at least 10 rows (few rows extra is allowed).
- Show how many rows were actually returned, in **red** text.
- Remember to include **your student ID (the only exception is q.11a)**.
- Show each query on a separate page.
- You must not use in-line views, schema on read, views for questions unless explicitly instructed to do so (Q10 only).

- We may be testing your code on the engineering server so make sure you install the database and test your answers on the “engineering” MySQL server.

Example:

Q.XX List all services where the recommended number of lessons is 4. The output should show name of the package and recommended number of lessons.

```
SELECT '123459999' as StuID, FirstName, LastName, Phone
FROM staff9999
WHERE LastName="Schmitt"
ORDER BY FirstName
```

StuID	FirstName	LastName	Phone
123459999	Antonio	Schmitt	0442471610
123459999	Katlyn	Schmitt	0421735725

2 rows

IMPORTANT: ATTEMPT EVERY QUESTION!

Ensure your scripts run on the engineering unimelb server

APPENDIX A. Events Management Co Business Rules

Events

A list of types of events being organised.

Event occurrences

Details of events as they occur every year. Some future events already have participants that signed up, other events were only recently scheduled so they have no participants.

Participants

Participants are judged against other people in the same age group. Each event uses special t-shirt as a uniform so each participant has their t-shirt size recorded.

Experience

Experience is marked from beginner level to expert.

Results

Result is a record of participants performance in a particular event as duration in minutes.

APPENDIX B. Sample Marking Schema

In this sample marking rubric Questions 1 and 2 are referring to a different case study. They each are worth 10 marks out of 200. Please attempt every question. The approach is as important as the result.

Q1 (10)	SELECT (2) first_name, last_name, job_title, dept_name 0.5 marks each	FROM (2) staff departments 1 mark each	JOIN (4) LEFT | RIGHT OUTER JOIN 4 - correct 3 - inner join 2 - natural join | left | right join without OUTER ; incorrect join condition 1 - Cartesian or any other join	RESULT (2) 118 rows Kimberly Grant must be in the set 2 correct 0 other	Q2 (10)	SELECT (2) country_name (1 mark) count(staff_id) (2 marks) (alias ok too)	FROM + JOIN (2) INNER JOIN | NATURAL JOIN 2 marks outer joins for no staff 1 mark	GROUP BY (2 marks)	ORDER BY (2 marks)	RESULT (2 marks) correct order (1 marks) incorrect order unordered but correct data (0 marks) incorrect result; no result

Any questions? Check the Assignment 2 LMS Ed Discussion forum for suggestions and hints.