SETTING UP THE POSTGRES ENVIRONMENT

1. Navigate to the github repo (https://github.com/lucompsoc/sql-demo-env)
2. Clone the repo (or download as ZIP -> Extract)
3. 'cd' into the directory
4. Run the following commands (*n.b. You will need **podman** or **docker** to run the container, if you are using docker, replace **podman** with **docker** in the following commands)*

Build the container on your device

podman build -t sql-demo .

Start the container

podman run -it --name sql-demo-container sql-demo

Connect to the database

psql -d sql_demo

If you need to restart the database environment you should, first remove the previous container (or use a different name) and use the command to start the container

podman rm sql-demo-container

QUESTIONS

You should aim to do these entirely in SQL with one command, use aliases, ordering and limits to get the output desired

1: Retrieve the current date, rename the column to ‘date’
Hint: https://neon.com/postgresql/date-functions/current_date

2: Retrieve all the data in the table, ‘games’

3: List all the games which are free

4: List the five most expensive games
Hint: reminder that you can use ASC and DESC to change order

5: List all the games that are not rated PEGI 18

6: List just the name and name of the publisher of each game
Hint: you will need to join the ‘games’ table and table ‘publishers’

7: Count the number of games published by ‘Nintendo’
Hint: use the COUNT(*) function also try to do this in a single command

8: Count the number of games published for all publishers, sort by most to least
Hint: you will need you use COUNT(*) and GROUP BY

9: Count all the users whose roles aren’t ‘ADMIN’
Hint: the users are stored in the table ‘users’

10: List the users who are missing an email or mobile

11: Sort all users by games purchased most to least
Hint: use the game ownership table

12: Find the most recent purchase: the user and the game and the date

13: Find how much *alice* spent on games in total
Hint: use the SUM function

14: Sort all users by total spent from most to least
Hint: same approach as the previous question but include a group by

15: Find the total amount spent on the whole website between June and August (inclusive)
Hint: you can write dates as 'YEAR-MONTH-DAY' (including the '') and all leading zeroes

16: Sort all games by total revenue, most to least

17: Sort all publishers by total revenue, most to least

18: Find the percentage of games purchased that were free
Hint: you can use standard mathematical operators and concat for formatting

19: Find the percentage of sales that each rating band had
E.g. PEGI 3 had 10%, PEGI 7 had 5% and so on

20: Find the publisher that made (on average) the most on each sale

MORE ADVANCED QUESTIONS (beyond what was covered today)

You might want to look up how to do these

17. List all the games published by the Top-3 publishers

Hint: you should use Common-Table-Expressions to do this in a single query (rather than doing long OR statements)

https://hightouch.com/sql-dictionary/sql-with

21. Find the percent of people who purchased each games and sort from most to least

22. Modify the games table to have a new column ‘date_published’

23. Update the games table to have this correct for at least one game

EXTENSION

Add a table to track reviews and another table to track ratings

Create some test data, insert it and then calculate averages for each game

You could also find the most and least reviewed games