VCE APPLIED COMPUTING · UNIT 1 OUTCOME 1 · RELATIONAL DATABASES · LESSON 5

Test it, chart it, explain it

Finish the Ridgeview Database Challenge: prove the database works, turn one query result into a chart, and explain what it shows.

1. Test table

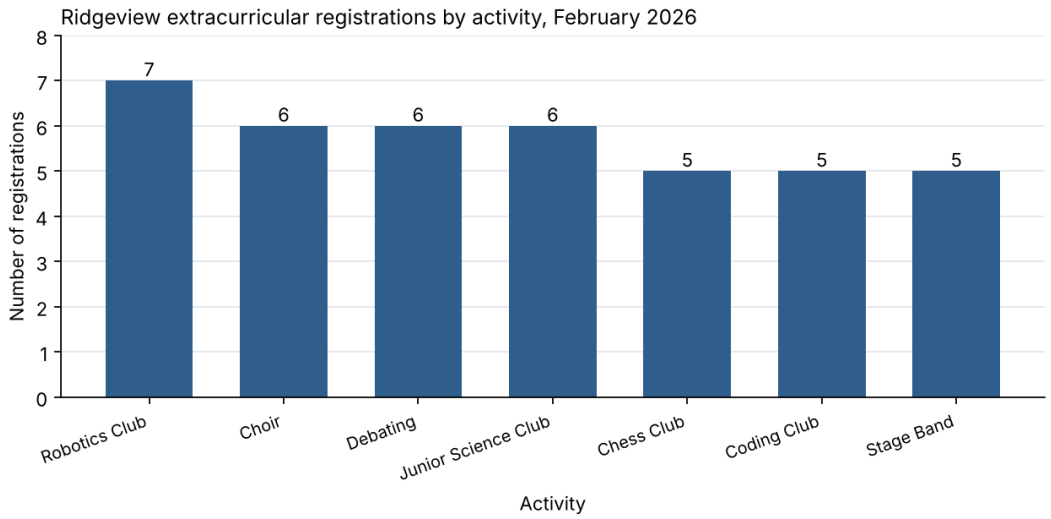
Test against the office's **requirements**, not just 'does it run'. Use **boundary values**: test just inside and just outside every rule. Two rows are done for you; add the Lesson 4 tests, then at least two of your own.

#	Requirement it checks	Test data or action	Expected result	Actual result	Pass?	Fix needed
1	A student cannot sign up for the same activity twice	Insert S1419 + A05 again	Rejected (UNIQUE)	Rejected: UNIQUE constraint failed	Yes	None
2	Year level must be 7 to 12	Insert students with YearLevel 6, 7, 12 and 13	7 and 12 accepted; 6 and 13 rejected	7 and 12 accepted; 6 and 13 rejected (CHECK)	Yes	None
3						
4						
5						
6						
7						

2. From query to chart

1. Run your Make 3 query from Lesson 4 (registrations per activity), or open the activity_counts.csv the Python extension saved.
2. Copy the result into Google Sheets.
3. Insert a **column chart**. The activities are categories with no natural order, so sort the columns from largest to smallest.
4. Apply the visualisation checks: a title that says *what*, *where and when*; labelled axes; one colour, with enough contrast for colour-blind viewers; the data source cited.

3. Teacher model



Source: Ridgeview database (synthetic data), query grouped by ActivityName. Teacher model chart.

Model explanation (written by your teacher)

Describe. This column chart shows the number of registrations for each of Ridgeview's seven extracurricular activities in February 2026, queried from the Ridgeview database. Robotics Club has the most (7). Debating, Choir and Junior Science Club each have 6, and Chess Club, Coding Club and Stage Band have 5. Only two registrations separate the most and least popular activities.

Conclude. Demand is spread fairly evenly, so no activity needs a second session yet. Robotics Club is the one to watch if room D04 has a capacity limit.

Evaluate the data quality. *Integrity:* the UNIQUE and foreign-key rules stop double sign-ups and orphan records, so the counts are more trustworthy than the old spreadsheet, which counted Tomasz twice for Chess Club. *Relevance:* the data shows sign-ups, not attendance, so it answers a question about demand, not participation. *Reliability:* one month of synthetic data is too little to predict next term.

4. Your turn

Step	Your writing
Describe	This chart shows… The highest… The lowest… An unusual feature is…
Conclude	This tells the office that… A decision they could make is…
Evaluate the data quality	Choose at least two: accuracy, bias, integrity, relevance, reliability.

Word bank: shows · compares · highlights · represents · rise · fall · peak · remain steady · slight · substantial · considerable · outlier.

5. Single-point rubric: Ridgeview Database Challenge

The middle column describes the standard. Your teacher (and you, first) write evidence on either side.

Not yet: what is missing	Criterion: what meeting it looks like	Beyond: evidence of going further
	Requirements interpreted. The database answers the office's stated questions, and the brief evaluation refers back to them.	
	Logical design. The ERD has suitable entities and attributes, correct primary and foreign keys, suitable data types, cardinality in words and symbols, and one justified design decision.	
	Implementation and querying. Tables match the ERD; at least three SQL queries (including one across related tables) return correct results.	
	Testing. The test table checks requirements and rules, including boundary values, with expected and actual results, and errors found were corrected.	
	Responsible data handling and communication. Only synthetic data; every field is justified by the purpose; the chart is titled, labelled and sourced; the explanation describes, concludes and evaluates data quality.	

Self-assessment

The criterion I am most confident about is ___ because my evidence is ___. The one I will improve first is ___.

Resource by Arvin Hay, part of the Ridgeview database unit. Data quality factors from the VCAA Unit 1 Outcome 1 key knowledge (VCAA, 2024). Rubric criteria follow the unit's success criteria. The model explanation is teacher-written, not student work.