

DATA101 Comprehensive Long Quiz - Set C

50-Point Assessment Document



De
La
Salle
Univer:

DATA 101: Data Visualization
DE LA SALLE UNIVERSITY
Long Quiz (50 points)

Name: _____ ID: _____ Date: _____

Instructions: Complete all questions. Use only one answer per matching item. Keep responses legible.

1) MULTIPLE ANSWERS (2 PTS)

For distribution comparison across groups, select all valid methods.

- A) Match binning strategy across groups before first-pass visual claims.
- B) Use median-only charts when tails are central to interpretation.
- C) Report n and scale choices in interpretation notes.
- D) Prefer violin over histogram by default for small n.
- E) Use log or Box-Cox transforms when skew is severe and interpretation remains clear.

- A)
- B)
- C)
- D)
- E)

2) MATCHING (1 PT)

Match each goal to the first table-based view choice.

- Detect group medians and trend shifts over time.
 - Detect heavy-tailed spread shifts.
 - Detect rank changes only for top 5 entities.
-
- i) Small multiples + trend/quantile panel.
 - ii) Distribution glyph (violin/box with CI or whiskers).
 - iii) Focused slope/ranker chart after top-k filtering.

1)

2)

3)

3) SHORT ANSWER (2 PTS)

A stakeholder asks for "fastest changing cohorts" using a dataset with huge within-grc single preprocessing guard should precede your chart choice?

4) RANKING (1 PT)

Rank these tasks by the degree of information loss if forced into a single chart from most to least.

- A) Compare two cohorts' medians by month.
- B) Show outlier bursts for each cohort.
- C) Compare within-cohort variance and spread change.
- D) Identify the fastest-growing and fastest-declining entities.

1)

2)

3)

4)

5) MCQ (2 PTS)

An ops room needs shared state and role-specific views. Best first-pass composition?

- A) Duplicate full dashboard for each role.
- B) Keep only one global chart with all controls open.
- C) Overview strip + diagnostic modules + action lane, with progressive disclosure.
- D) Separate pages and no shared interactions.

6) MULTIPLE ANSWERS (1 PT)

Which changes reduce dashboard ambiguity?

- A) Centralized scale registry for metric semantics.
- B) One state store shared across coordinated views.
- C) Hide infrequent actions under advanced controls.
- D) Separate unrelated filters per view by default.
- E) Reuse a single tooltip format across every module.

A)
B)
C)
D)
E)

7) MATCHING (1 PT)

Match each pattern to intended outcome.

- Overview then decision lanes.
 - Hide/show controls by intent.
 - Operative cockpit with synchronized interactions.
-
- i) reduce cognitive split between context and action.
 - ii) preserve shared analytical continuity.
 - iii) reduce visual noise and protect first load speed.

1)

2)

3)

8) SHORT ANSWER (2 PTS)

A dashboard has 5 KPIs, 4 actions, and 8 filters but users complain about fatigue. Spe
versus hidden controls.

9) MCQ (1 PT)

You need community structure + bridge detection on 25k sparse nodes for executives.

- A) Node-link only, no edge weight.
- B) Matrix only, no ordering.
- C) Hybrid node-link overview + matrix for dense clusters.
- D) Treemap of degree counts only.

10) MULTIPLE ANSWERS (1 PT)

Select all valid reasons to add a matrix view alongside node-link.

- A) Dense/near-complete regions create entangled edge crossings.
- B) Need to inspect block structure and co-membership.
- C) Need intuitive path tracing at first pass for stakeholders.
- D) Need to inspect asymmetry and edge direction.
- E) Need to keep node labels always visible without hover.

- A)
- B)
- C)
- D)
- E)

11) SHORT ANSWER (2 PTS)

For directed-signed graphs, which fields are required and how should polarity and strength be encoded?

12) MATCHING (1 PT)

Match task and graph layout.

- Report allocation share by branch.
 - Highlight bridge nodes and cut-edges.
 - Inspect dense community blocks quickly.
-
- A) Node-link primary + matrix secondary.
 - B) Treemap primary + node-link secondary.
 - C) Matrix primary + node-link secondary.

1)

2)

3)

13) RANKING (1 PT)

Order interaction priorities for a live graph brief from highest to lowest: 1) Community to slider, 3) Link strength legend, 4) Animated force transition.

- 1)
- 2)
- 3)
- 4)

14) MCQ (1 PT)

You compare incidence in uneven counties with many low-population areas. Best base

- A) Raw counts in choropleth classes.
- B) Per-capita rates with explicit normalization and binning rationale.
- C) Bubble map only.
- D) Equal-area projection with no distance claims.

15) MULTIPLE ANSWERS (2 PTS)

Which are high-risk pitfalls in spatial interpretation?

- A) MAUP from boundary changes.
- B) Ecological inference.
- C) Ignoring symbol overlap scaling in overlays.
- D) Using CVD-safe colors only.
- E) Ignoring projection distortion when discussing distance.

- A)
- B)
- C)
- D)
- E)

16) SHORT ANSWER (2 PTS)

You publish a choropleth plus symbol map on the same indicator. State one essential p

17) MCQ (2 PTS)

For publication-quality vector slides and precise labels in a PDF workflow, which default is strongest?

- A) PNG only.
- B) GIF animations.
- C) SVG exports from charts that support it.
- D) Screenshot-only outputs.

18) MULTIPLE ANSWERS (1 PT)

Select all that are valid reasons to prefer HTML over raster outputs.

- A) Need built-in hover tooltips and interaction.
- B) Need lightweight, fully static printing at 300 DPI.