FIT3179 — Homework 9

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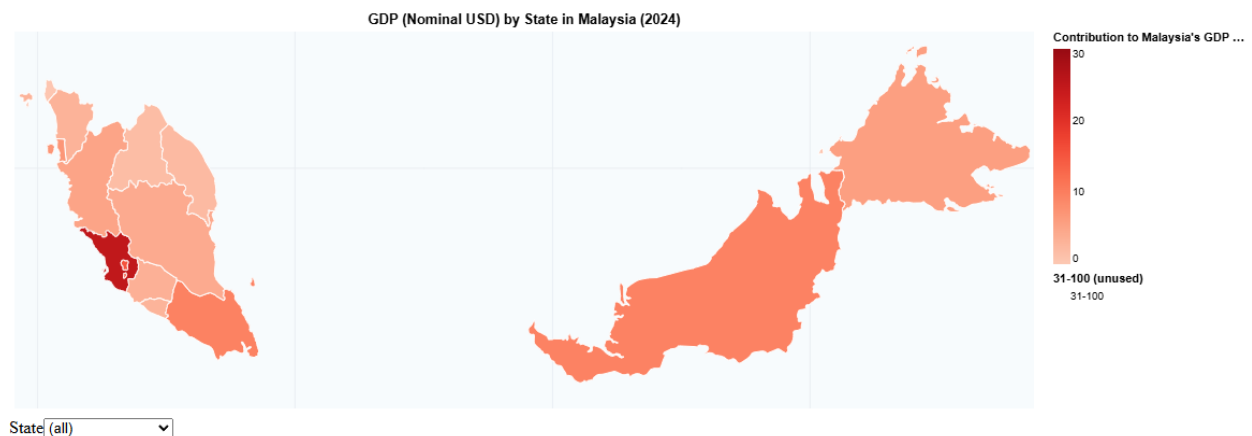
Lab: Tutorial 3, Thursday 4:30-6:30pm

Tutor: Dr Grace

URL: https://github.com/LTS0924/FIT3179

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Malaysian States Choropleth Map

GDP (Nominal USD) by State in Malaysia (2024)

Domain

- Gross Domestic Product (GDP) in Malaysia by state, focusing on each state's contribution to the national GDP for the year 2024.

Visualized Dataset

- Source: Dataset compiled from Malaysian state GDP statistics (Nominal USD) for 2024. https://en.wikipedia.org/wiki/List_of_Malaysian_states_by_GDP#cite_note-:0-5
- Author of the map: Lee Ting Sen
- Attribute types:
    - State boundaries of Malaysia (categorical nominal)
    - Quantitative (percentage contribution of each state to Malaysia's GDP)

Data Transformation

- The original dataset contained nominal GDP values in USD for each Malaysian state.
- To enable comparison across states, these values were normalized into percentage contributions relative to the national total GDP.
- The formula used was:
    - GDP Contribution (%) = (GDP of a State ÷ Total GDP of all States) × 100
- For example, Selangor's GDP of 105,960 million USD contributed 25.1% of Malaysia's total GDP.
- After normalization, the dataset was simplified into two columns: State and Contribution (%), e.g.:
    1. Selangor, 25.1
    2. Kuala Lumpur, 15.4
    3. Johor, 9.7
    4. Sarawak, 9.6
    5. Pulau Pinang, 7.1
    6. Sabah, 5.9
    7. Perak, 5.2
    8. Pahang, 4.3
    9. Negeri Sembilan, 3.5
    10. Kedah, 3.1
    11. Melaka, 3.0
    12. Terengganu, 2.1
    13. Kelantan, 1.7
    14. Labuan, 0.5
    15. Perlis, 0.4
    16. Putrajaya, 15.4

Idiom Justification

- A **choropleth map** is used because the attribute of interest (GDP contribution) is **quantitative and geographically distributed across states**.
- Choropleth maps are effective for showing **relative intensity of values** across regions, making it easy to compare which states contribute to the national GDP.
- Alternatives like proportional symbol maps could clutter small states (e.g., Putrajaya, Labuan, Perlis), so choropleth was more suitable.
- The color scale (light → dark red) emphasizes higher GDP contribution, with Selangor and Kuala Lumpur standing out as major contributors in 2024.