Introduction to GIS

Lab 2: Geo-visualization

Lecturer: Dr. Yan Yingwei

Exercises:

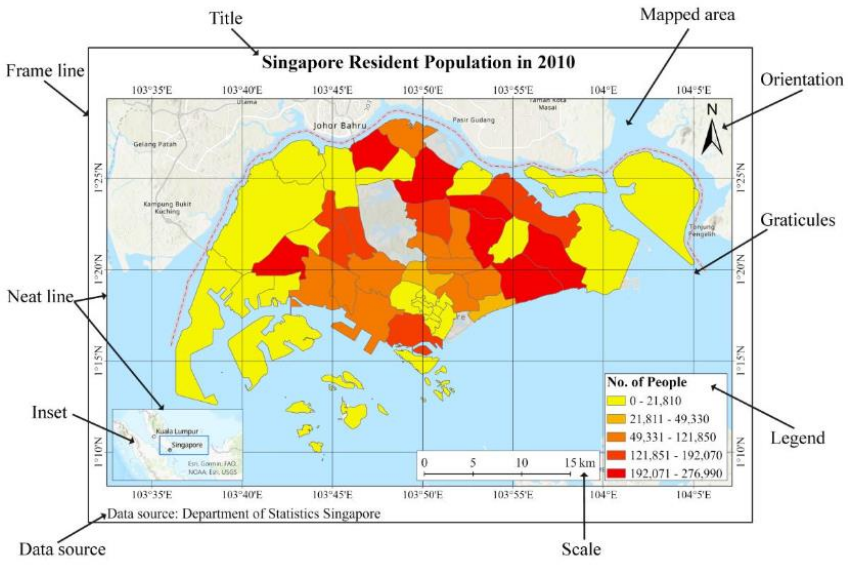
Part I: Field Calculation and Choropleth Mapping

Please follow the document of Exercise 1 and Exercise 2 and answer the following questions.

Q-1 Continuing from the steps above, please design a professional (with appropriate and necessary map elements) and aesthetically pleasing choropleth map. Export the map to a Tiff file (300 dpi) and insert the map into your Word document (3 marks). In addition, please identify the subzone with the lowest population density and provide its name and value (1 mark).

In the lecture, I instructed to use the link below for the assignment. A relevant map example that can be considered good has been provided and a video regarding how to create this map is available. Please DO check these StoryMap links provided on the lecture slides.

https://storymaps.arcgis.com/stories/dd1cf50a17914df8a02146e3e5264923

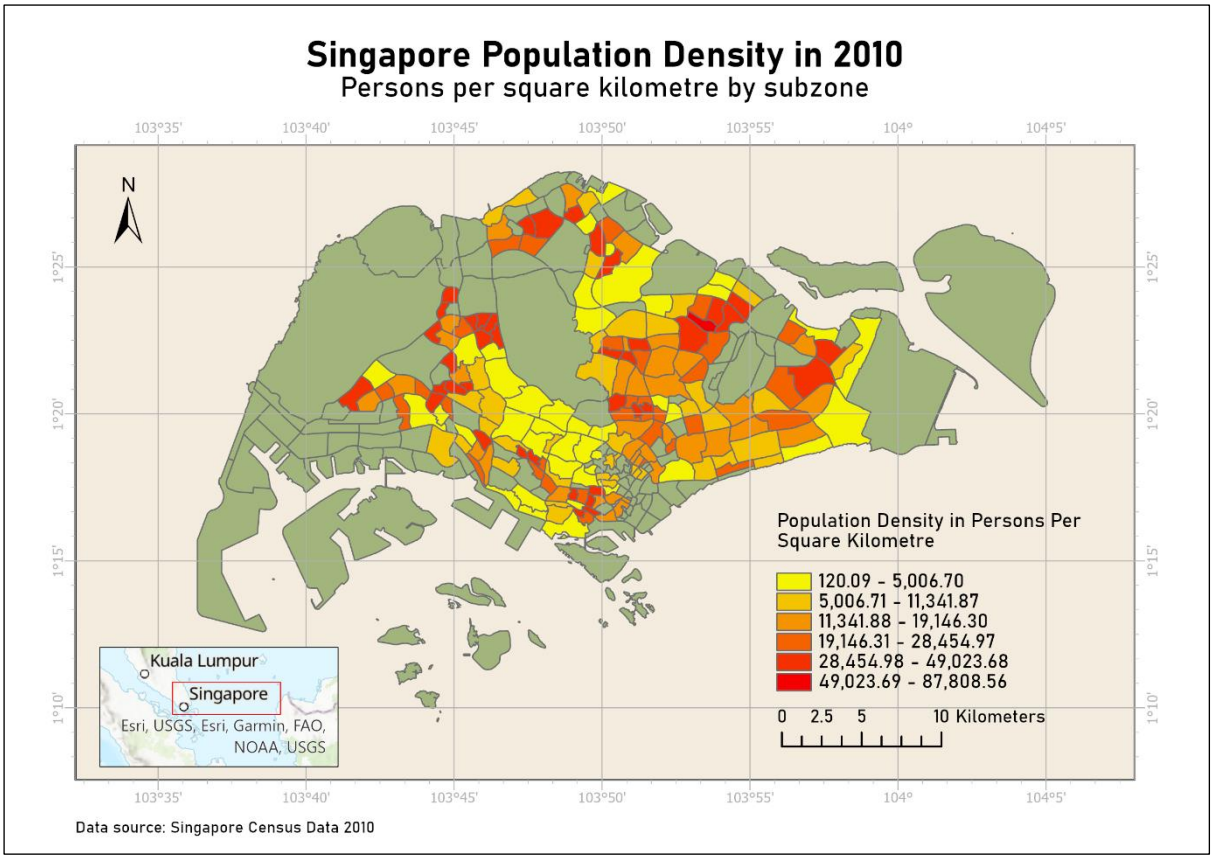


- Common issues include:
  - Without a scalebar or legend; this can be considered as a low-quality map directly, meaning that the student did not even pay attention to the most basic elements.
  - Without a neat line (frame line is optional)
  - The title is too small and not in the same line
  - Without a comma (thousand separator) being placed every third digit to the left of the decimal point (for numbers with 7 or more digits (e.g., 1,000,000)).
  - Lacks Year information (2010)
  - The legend values and the legend colour ramp are too separated
  - There should be no decimal places in the legend values, as it is about population, we should not have e.g., 1.5 people.
  - Without a proper legend description/name (e.g., Population Density (per sq km))

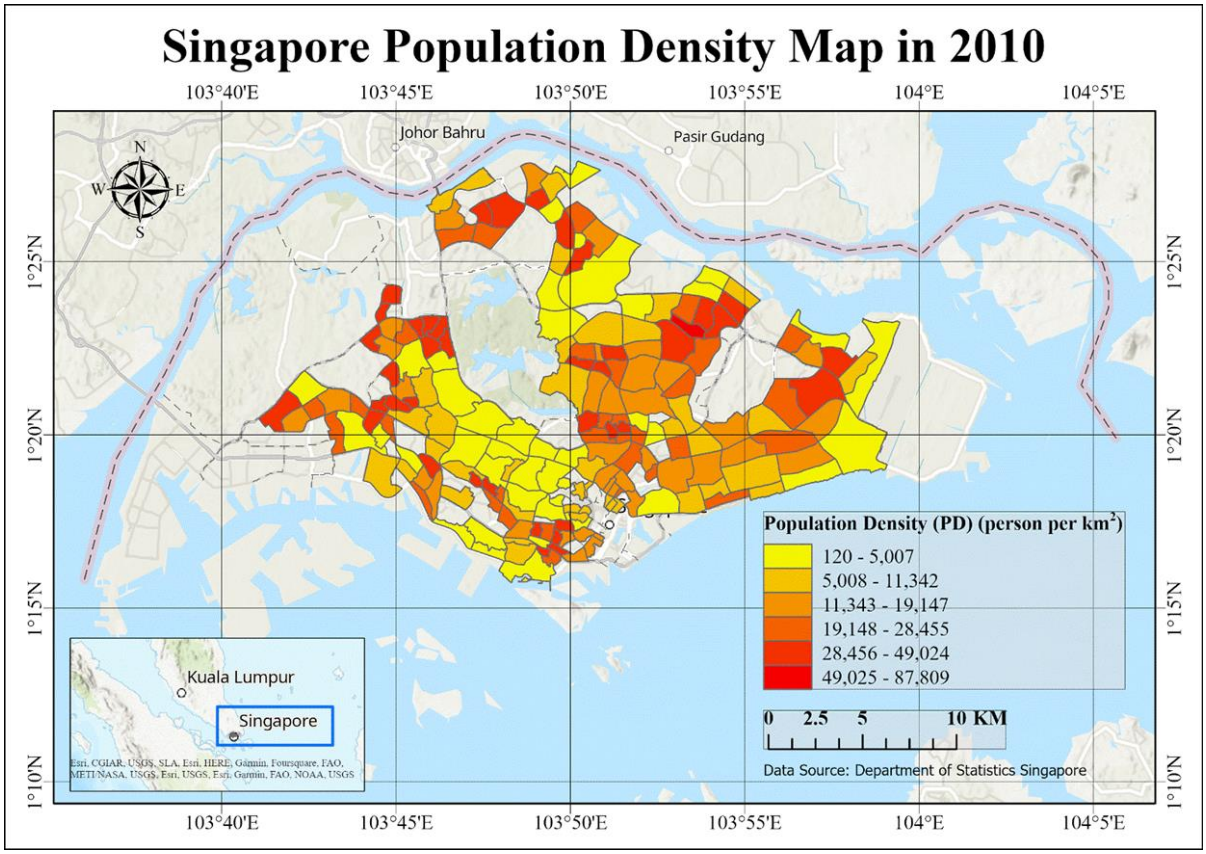
- The map is unbalanced (please refer to the lecture slides),
  - The main content (main layer) is small and the items (e.g., legend, scale bar, north arrow) are too large
  - The focal element is not placed near the visual (optical) center which is a little above the map's geometric center (please refer to the lecture slides)

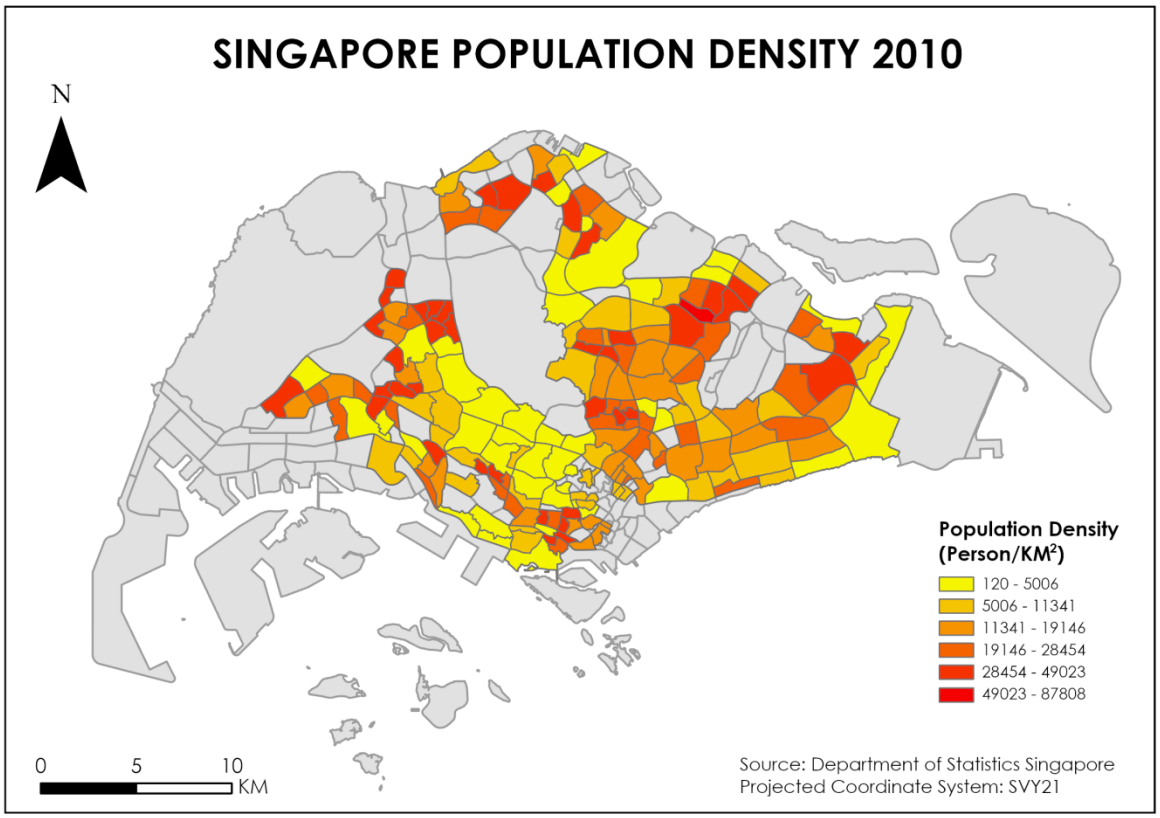
- The position of the legend or other items is problematic (e.g., north arrow or legend being partially placed out of the neat line or frame line)
- …

- Converting the values on the legend to ordinal date is ok, e.g., very low density, low density, medium density, high density, very high density



The one above is generally good, but the number of people should be converted to integers.





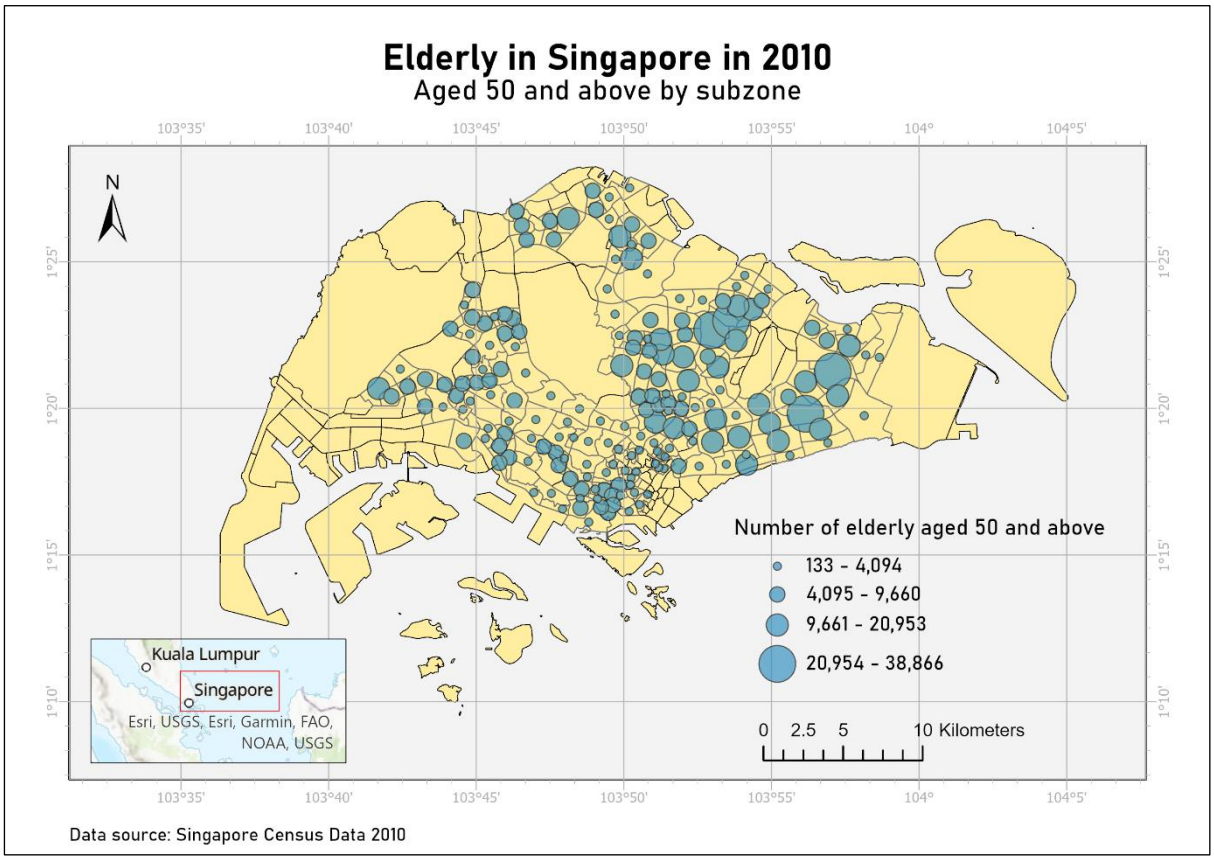
The one above is good but better to use thousand separators for the values.

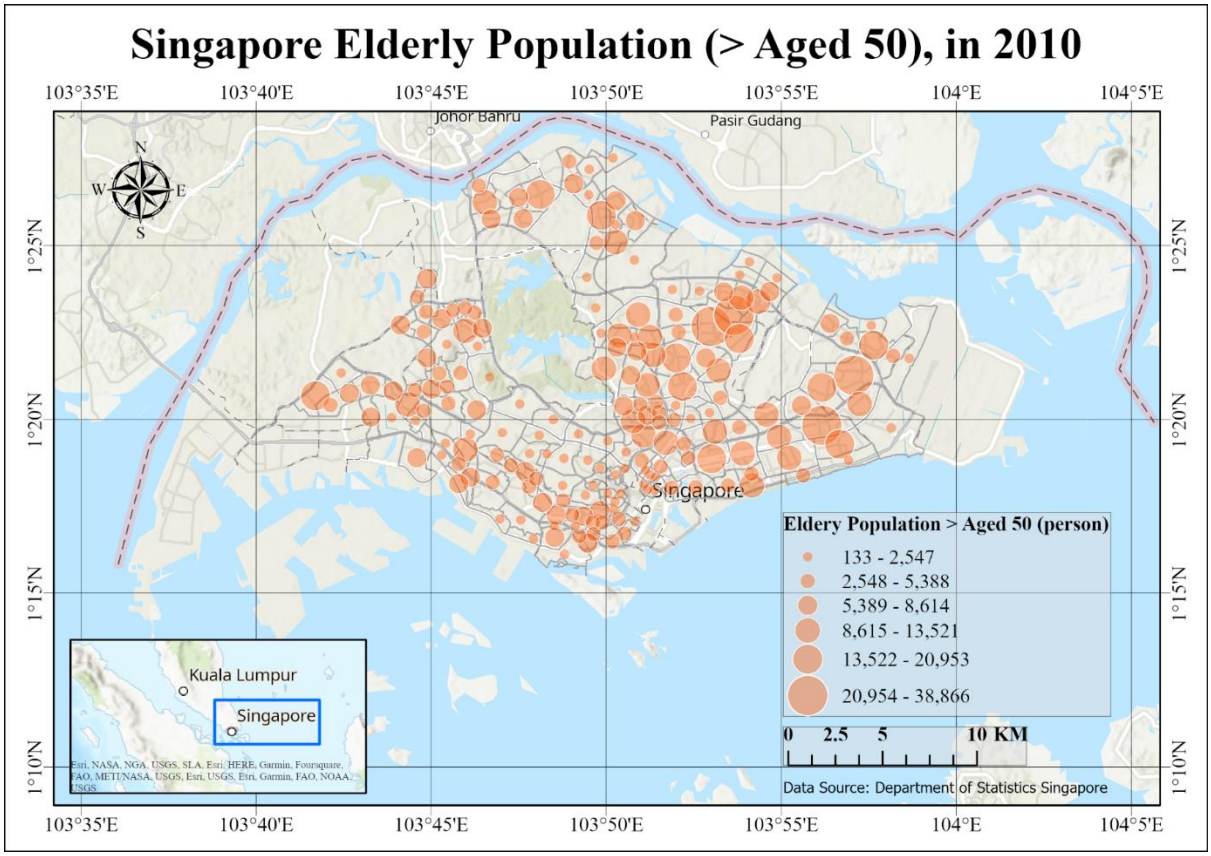
LOWER SELETAR, 120 people per square kilometer (The value should be an integer as we should not have e.g., 1.5 people, and the unit is necessary).

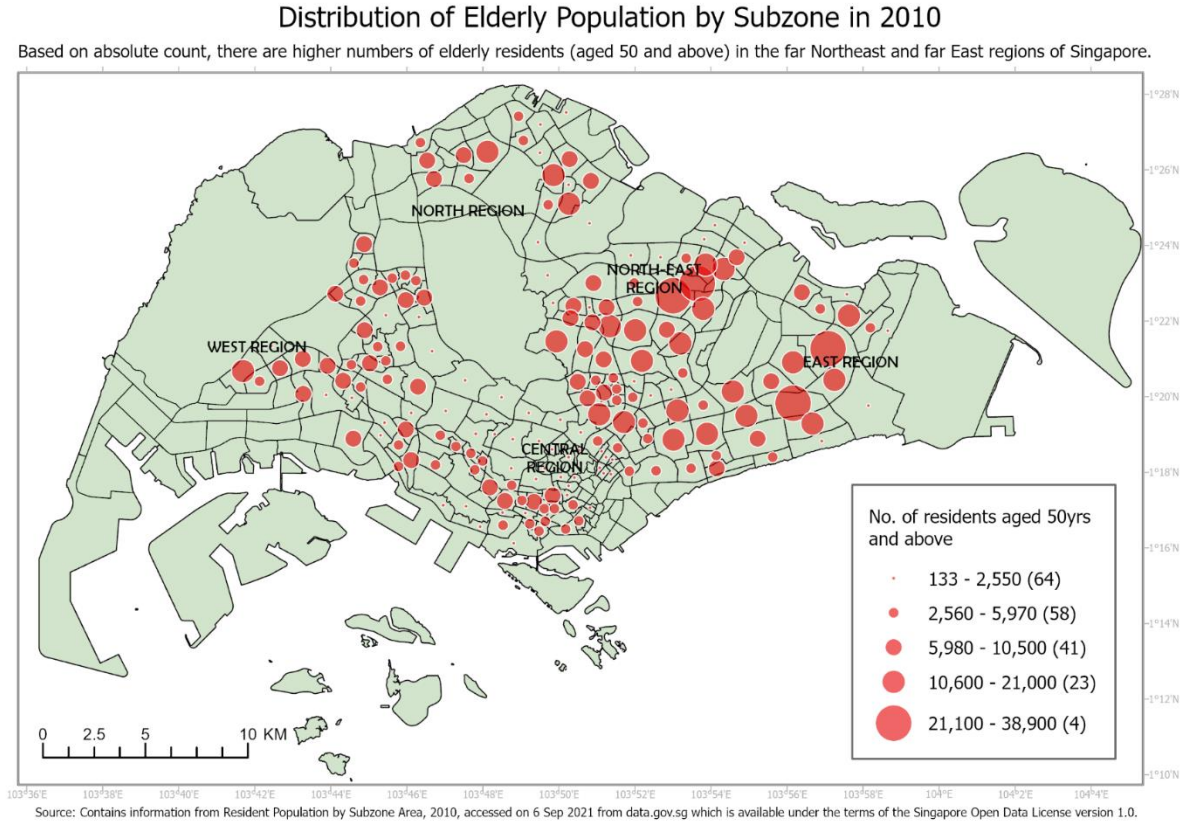
Q-2 Please design a **Graduated Symbol map** based on the Subzone_2010_Joined layer with appropriate and necessary map elements. This map should reflect the populations of elderly people (**aged 50 and above**) for different subzones in Singapore. Export the map from the layout view to a Tiff file (300 dpi) and insert the map into your Word document (3 marks). In addition, please identify the subzone with the highest number of elderly people and state its name and value (1 mark).

Note that the demographic information is included in the attribute table. For example, the field a2024 refers to the number of people whose ages are between 20 and 24.

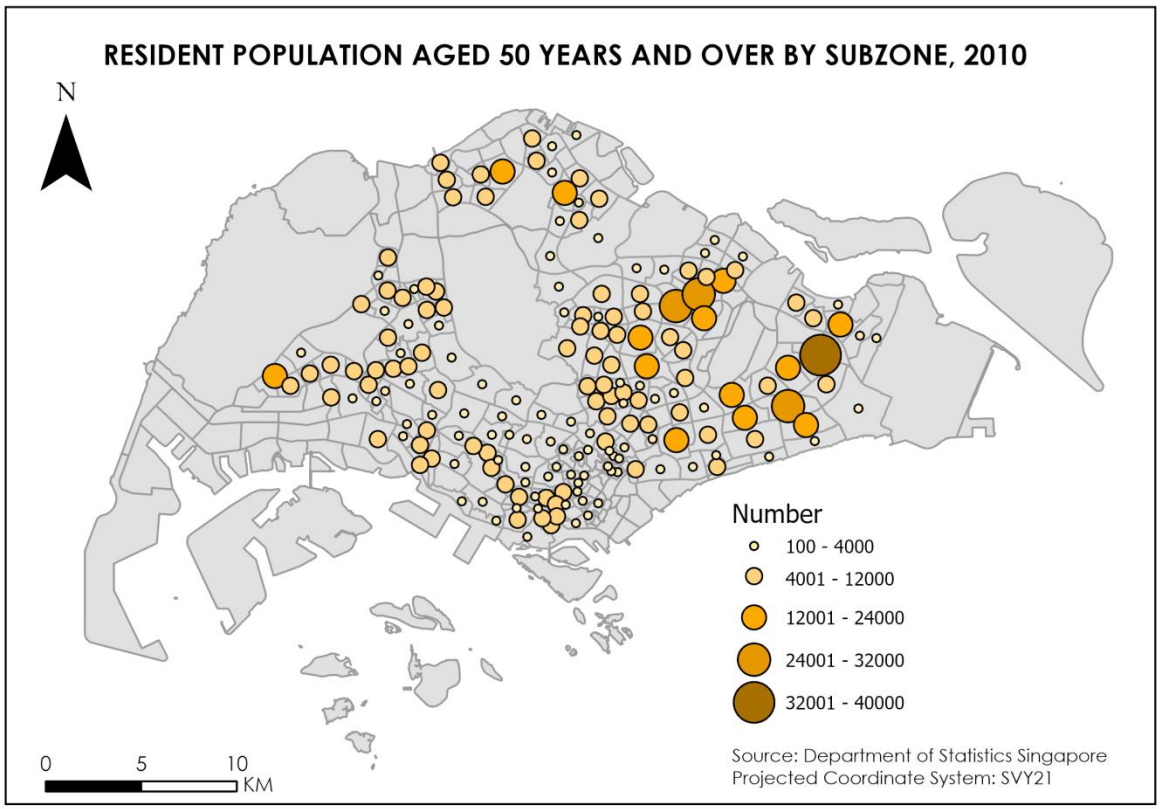
- See Q1 for the common issues, additional issues for this question include:
  - Without a proper legend description/name (e.g., Population aged 50 and above)
  - Too much circle overlap and thus cannot see the subzones below the circles (unless transparency is applied)
  - Too much circle overlap in the inset (if there is an inset)
  - The subzone layer is lacking or the subzones cannot be seen
  - The circle sizes are too similar to differentiate.
  - …
- The map must be a graduate symbol map, it is wrong if a choropleth map or other non-graduated symbol map was submitted
  - However, a proportional symbol map is acceptable, which is a variation of the graduated symbol map, please refer to the lecture slides.







The one above is good but better to slightly enlarge the title.



The one above is good but better to use thousand separators for the values and add some transparency to the circles.

(1) TAMPINES EAST, 38,866

Please send your inquiries on the marking to your respective TA who assist with the marking as shown in the table below within 7 days from today. Please Cc me.

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NGO JO SHANN	Xu Dong
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NUR INSYIRAH BINTE AIDIL	Xu Dong
ONG YA WEN	Xu Dong
PARVATHY VARMA	Xu Dong
PHOEBE CHOY YA ZHI	Xu Dong
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TANG KAI EVAN	Baoyan
TARA LINGARAJ	Baoyan
TARNOVSKAYA ALISA	Baoyan
TEO KAI WEI	Baoyan
TEO YUN YEW JARRETT	Baoyan
TEOH WEN XUAN	Baoyan
TUNG ZHI YONG, IAN	Baoyan
WAYNE WONG HOI YIN	Baoyan
WEE JING WEN	Baoyan
WEE YI XUAN	Baoyan
WEEKS JAMES JOSEPH	Baoyan
WONG SAM TOU	Baoyan
WONG WEI	Baoyan
YANG LITING	Baoyan
YANNI GAN	Baoyan
YAP WAN ING LORRAINE	Baoyan
YASHWINI D/O NELAVANNAN	Baoyan
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