Accompanying Text of Assessment Part 1

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# Map produced by ArcGIS: Analysis of partial green space in Camden

This map shows the distribution of partial green space and their service area in Camden. The data used in this map come from the UK Data Service geography service(*https://census.edina.ac.uk/*) and the Edina Digimap Service(*http://digimap. edina.ac.uk/*) respectively.

First, I downloaded the boundaries, building and green space maps, and then I imported these data into ArcGIS. After that, I used clip tools to remove green space and buildings outside Camden. My purpose is to study public open space and green space, so I used attribute table to select public parks and gardens, play space and playing fields. Next, I used buffer tools to draw a range of two hundred meters with these open space and green space as the center. Subsequently, I used attribute table to calculate the total area of Camden, the selected green space and the service area. Finally, I added the title, legend, north arrow, area table, and scale in the layout view and exported the map.

This map shows the layout of the selected green space and its range of services, and it also clearly contrasts the area of selected green space, the service area and Camden. However, due to insufficient data, this map does not take into account the traffic factor, nor does it classify the green space, so further analysis and research are necessary in the later stage.

# Maps produced by R: Female and male life expectancy in 2009

These two maps show the life expectancy of male and female in London. The data used by these two maps comes from UK Data Service geography service (*https://census.edina.ac.uk/*).

First, I read London data from Internet and used tidyverse package to clean the data in Rstudio. Then, I use library function to invoke all the packages required. Next, I read the shapefile of London and joined some attribute data to some boundaries. After that, I used qtm function to create and other codes to set colour, styles and data.

These two figures clearly show the life expectancy in London area. However, the data I used is still derived from previous exercises, and I will try to use R to research and analyze some new problems in the future.

# Contrast and conclusion

Both ArcGIS and R are good analysis and mapping tools that can help us quickly and accurately analyze some spatial issues. Compared with R, the human-computer interaction interface of GIS is more friendly and can draw more abundant graphics. R is very powerful at processing data. R can process large amounts of data and add it to spatial graphics for analysis. Therefore, it is necessary to use both software skillfully, and to use more suitable software under different requirements.

# Appendix

