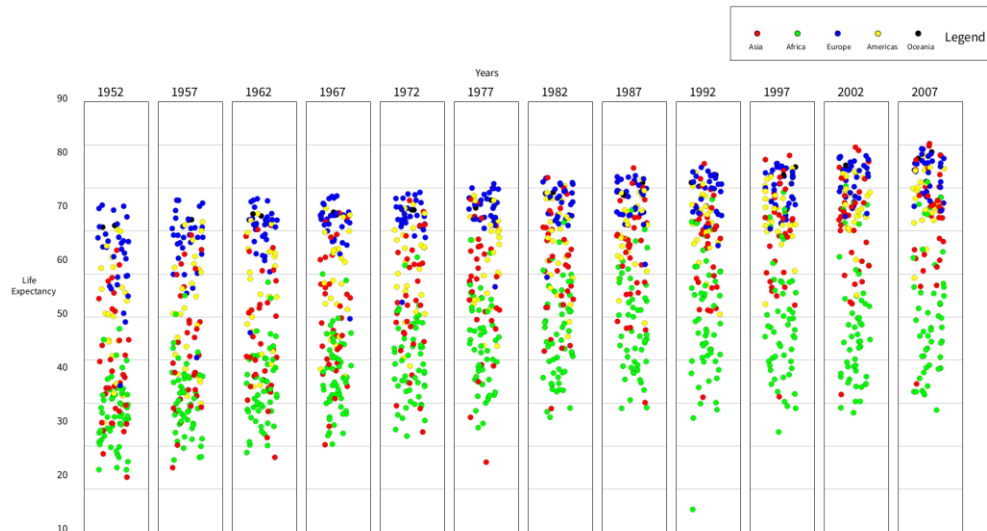
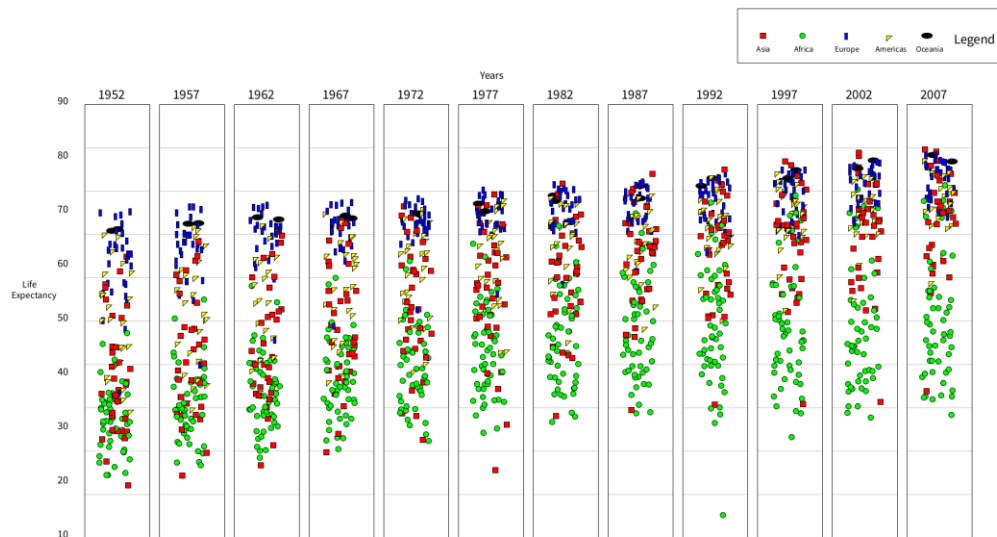


DECLARATION: I understand that this is an **individual** assessment and that collaboration is not permitted. I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at <http://www.tcd.ie/calendar>. I understand that by returning this declaration with my work, I am agreeing with the above statement.

Part 1:



The visualisation above is encoded year by X position and life expectancy by Y using color to encode the continent attribute. The positions are randomized on the X axis within each graph to make it more readable.

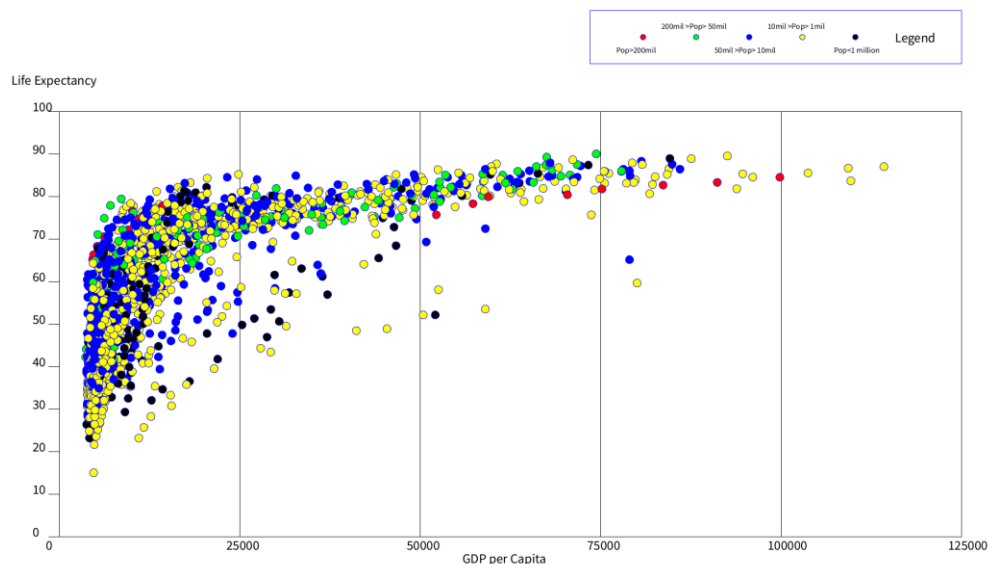


The visualisation above is encoded year by X position and life expectancy by Y using shapes i.e. mark and colour to encode the continent attribute. The positions are randomized on the X axis within each graph to make it more readable.

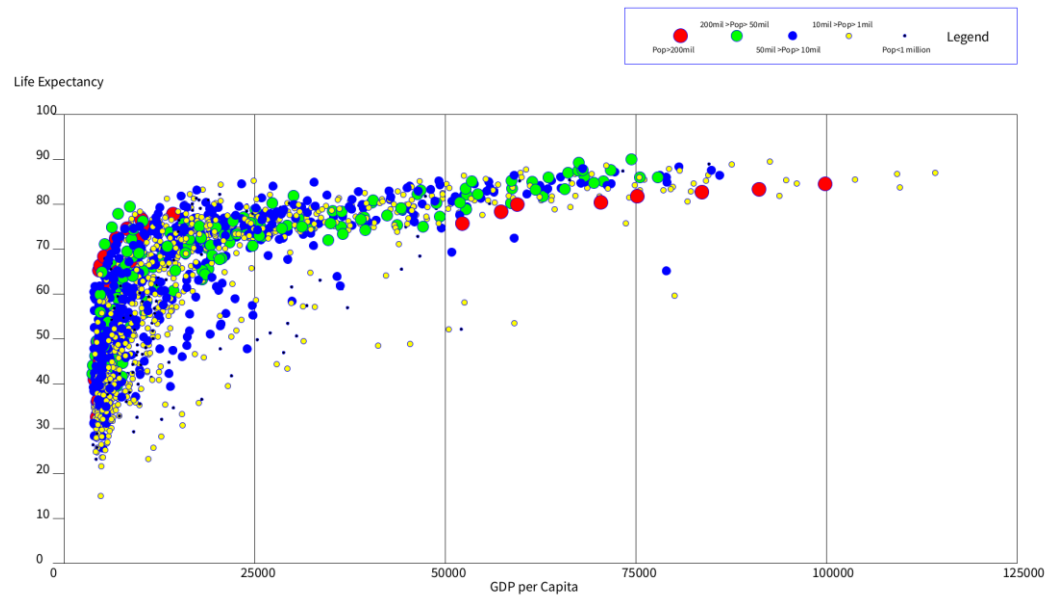


The visualisation above is encoded year by X position and life expectancy by Y using size to encode the continent attribute. The positions are randomized on the X axis within each graph to make it more readable.

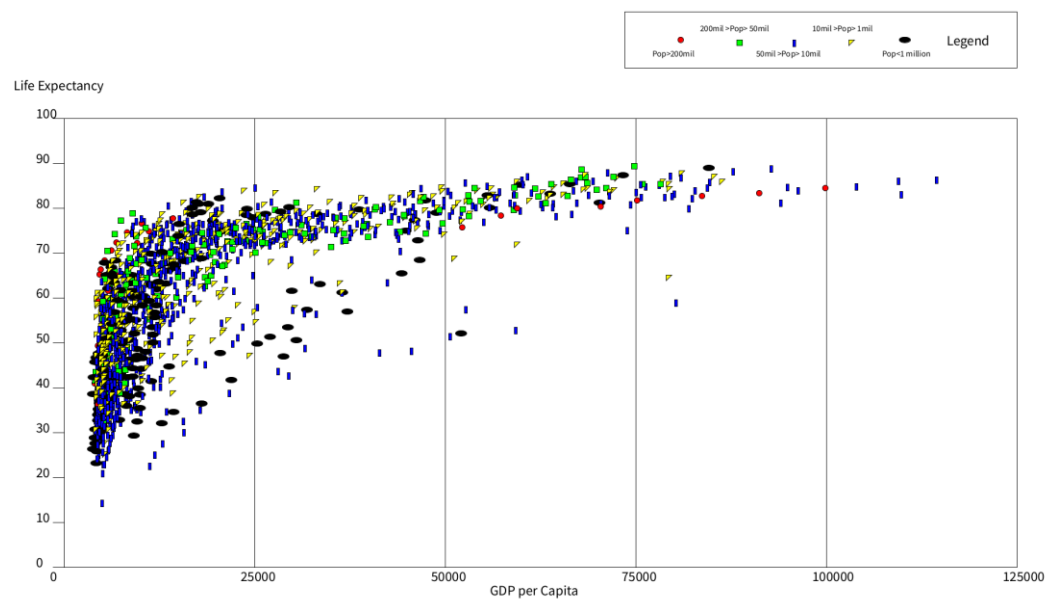
Part 2:



The visualisation above is encoded GDP per capita by X position and life expectancy by Y position and is encoded using color to encode the population attribute.

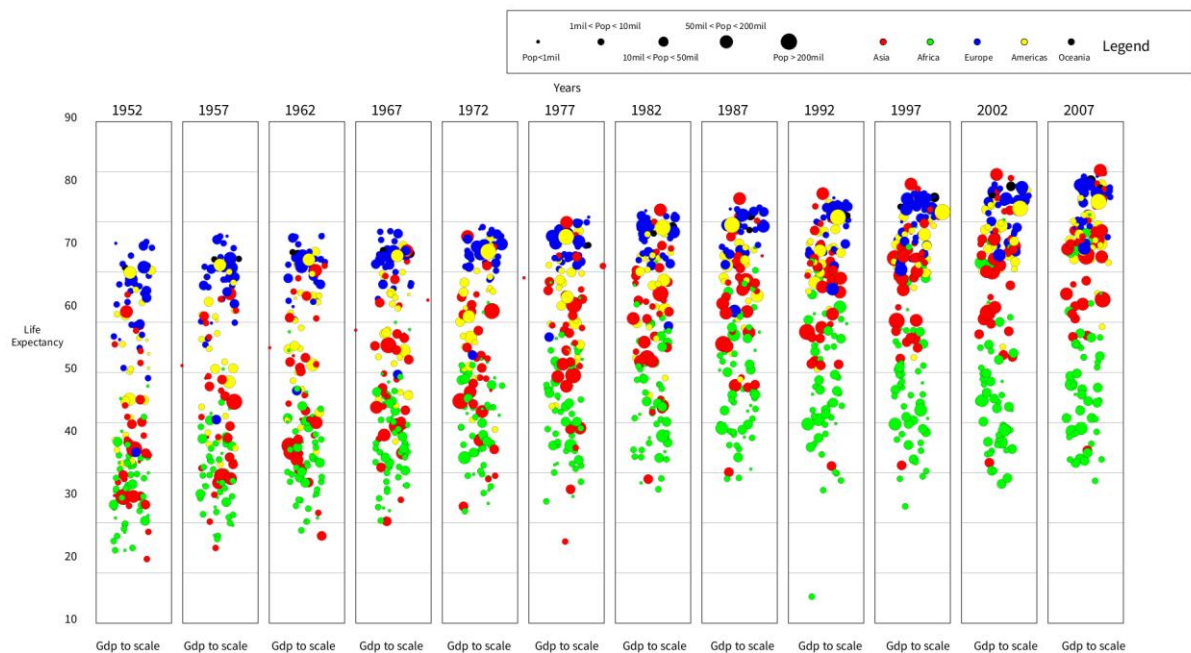


The visualisation above is encoded GDP per capita by X position and life expectancy by Y position and is encoded using size and color to encode the population attribute.



The visualisation above is encoded GDP per capita by X position and life expectancy by Y position and is encoded using mark and color to encode the population attribute.

Part 3:



The visualisation above encodes all attributes. Continent is encoded using color, population is encoded using size, life expectancy using Y axis, year across x axis for each graph and finally gdp per capita to scale for each graph where the lower gdp countries are towards the left side of each graph and the higher gdp countries on the right. Each and every country is also visualised.

All of these visualisations were created using processing without the use of any external libraries so essentially from scratch. In my opinion encoding all six attributes into the final graph makes it less readable and so the efficacy is quite low but a way to fix this could be to decrease the number of attributes or the number of datapoints that we are using and adapting it based on what information is most necessary. I will be submitting the source code for all of these visualisations as a zip file as part of my submission.

References

- [1] T. Munzner, Visualization Analysis and Design, AK Peters / CRC Press, 2014.
- [2] Processing.org