Title: Understanding the current World

Goals of project

- This project investigates datasets from Gapminder World to gain a deeper insight into the World through real-life data analysis.
- Use datasets to learn how to take on a real data analysis project and derive insights from the data.
- Learn to use structure to process, clean, analyze data and use matplotlib to plot high quality graphs for reporting or publication in scientific journals.

Data Source:

- http://gapm.io/dpop

Structure of this project

- Pre-processing data
- Part I: Understand population change
- Part II: Understand GDP change
- Part III: Understand life expectancy and income

Results:

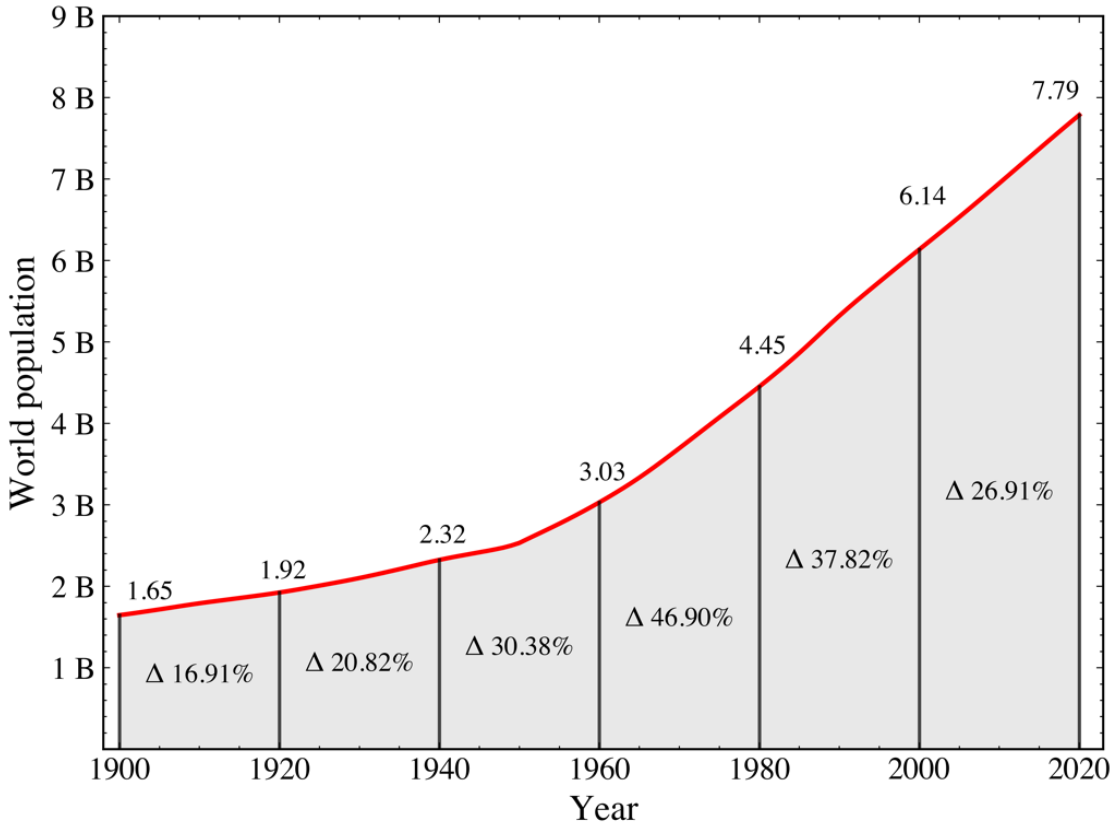

Fig. 1 World population change 1900 – 2020

- The world population has experienced continuous growth. The world population increased from 1.6 billion in 1900 to 7.79 billion 2020.

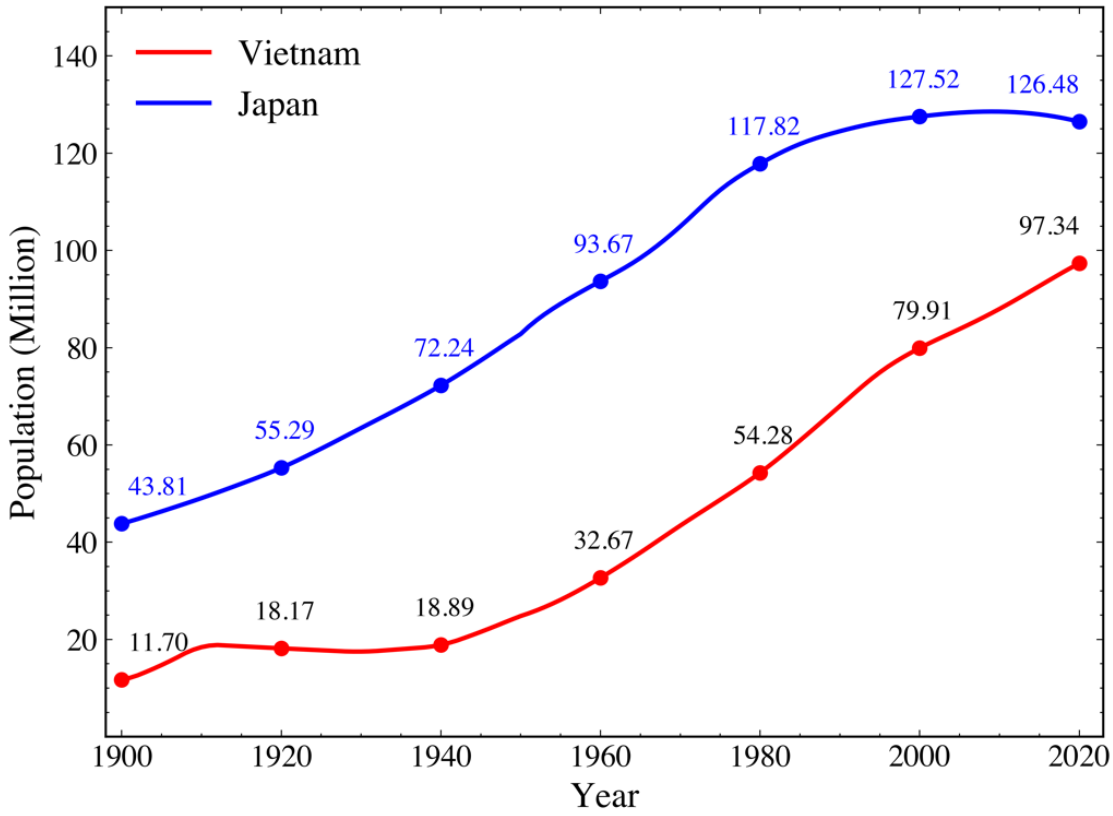

Fig. 2 Population change in Vietnam and Japan 1900 – 2020

- Before the 1980s, both Japan and Vietnam had similar population growth rates. While the population in Vietnam will continue to increase steadily until 2020, Japan's population tends to increase slowly and gradually decrease. Especially the continuous population decline from 2000 to 2020.

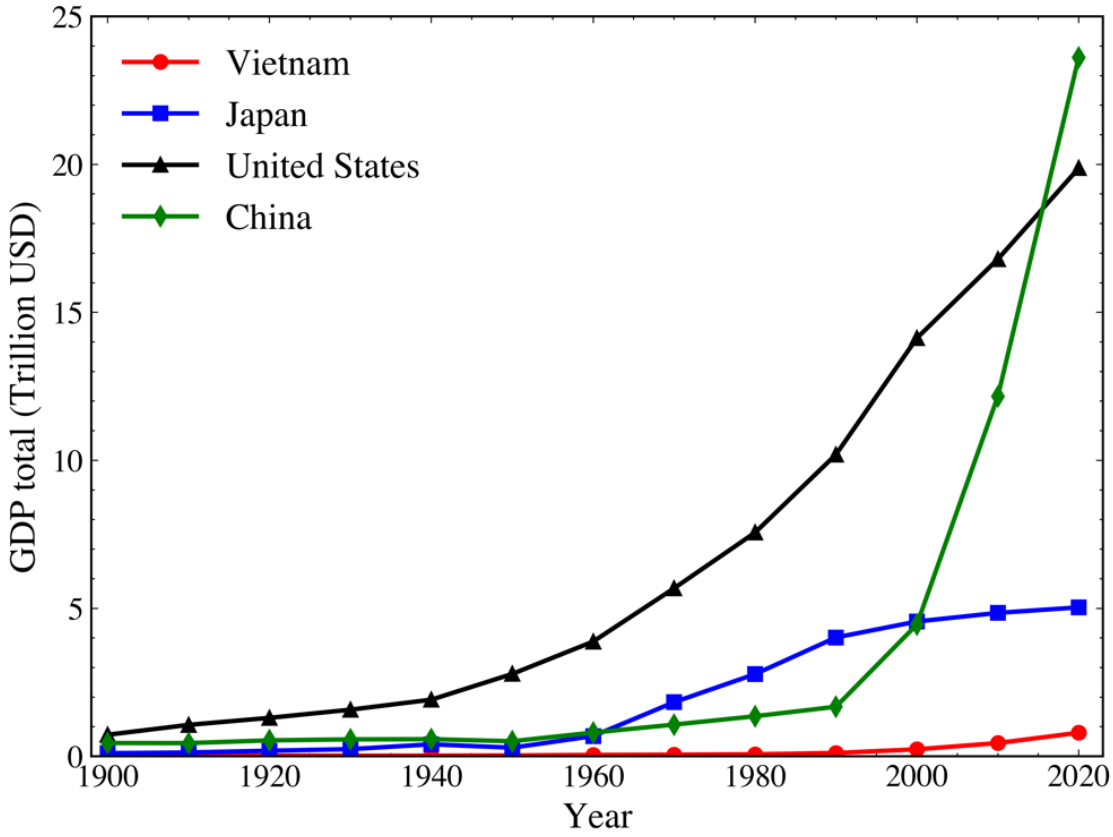

Fig. 3 GDP change in 4 interested countries 1900 – 2020

- Vietnam's GDP has maintained a very slow growth rate from 1990 to 2020. Japan and China tend to increase quite strongly in the period after 1960. Although it has always had a lower GDP than Japan during the previous period, China's GPD caught up and equaled Japan's GDP in 2000 before surpassed Japan many times in the period 2000-2020. The US has a GDP that has always been at a steady and high rate compared to other countries but has been behind China since 2012-2020.

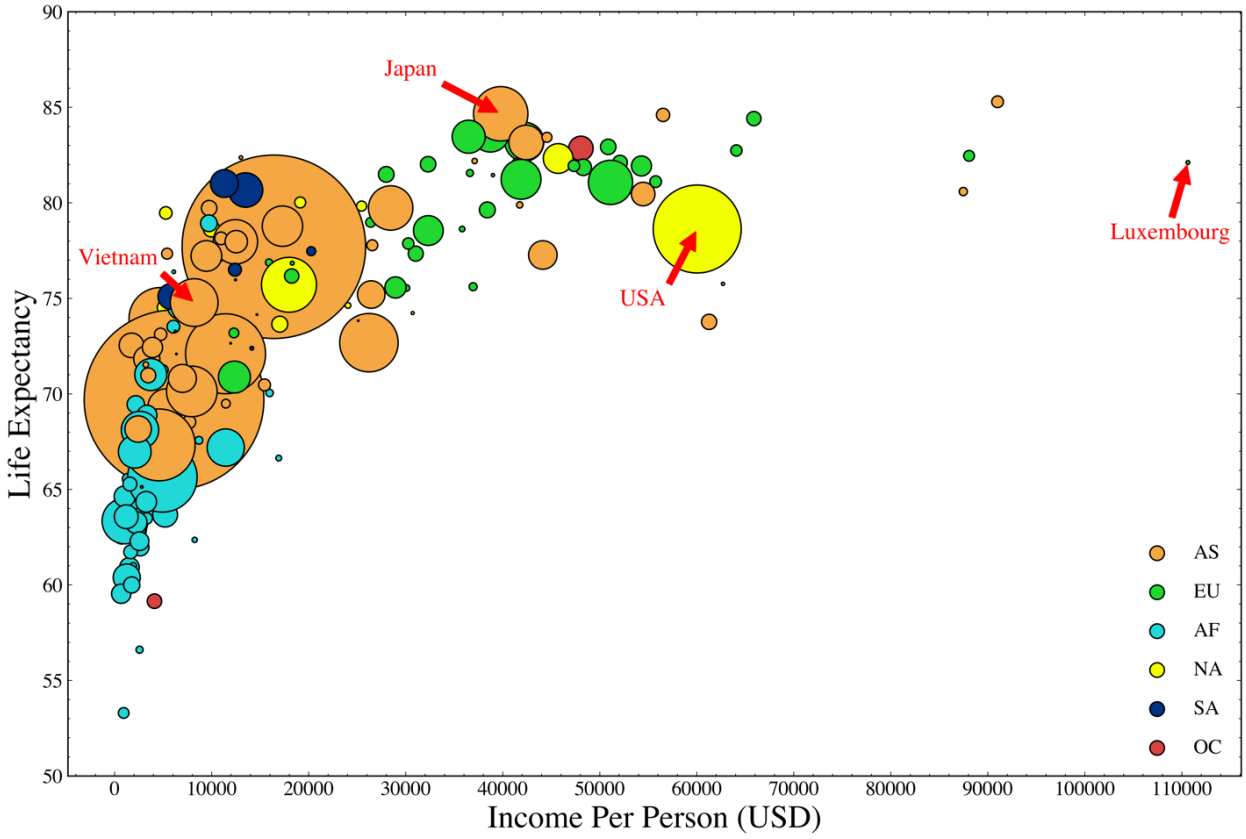

Fig. 4 Life expectancy and income in 2020

- Life expectancy and income has almost linear relationship.

Japan and America belongs to top high income where the life expectancy also high round 80-85 years old.