Sample solution

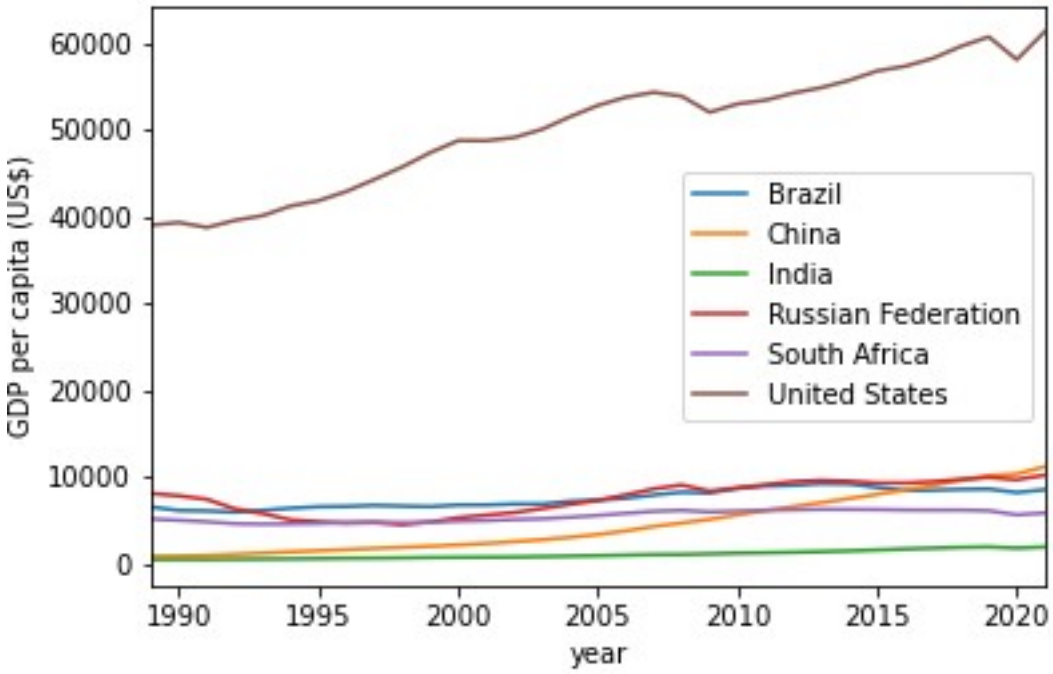
Code and report of a sample solution. It is recommended, but not required that you write the plot functions in a general way, adaptable to plotting other kinds of data. Scoping (pulling variables from the main program instead of having them as arguments) is the least flexible way. You'll need to write a new function for a variable with a different name.

Visualisation 1: GDP of USA and BRICS countries in 1990 and 2000

Pie plots are a good way to compare the relative size of economies and show the change over time.

USA and BRICS (Brazil, Russian Federation, India, China, South Africa) economies. The epxression BRICS was introduced in the early nineties. They were considered the up and coming economies. The two pie charts shows that this expectation was fulfilled for China and to a lesser degree for India, while the share of the pie for Russia, Brazil and South Africa shrank.

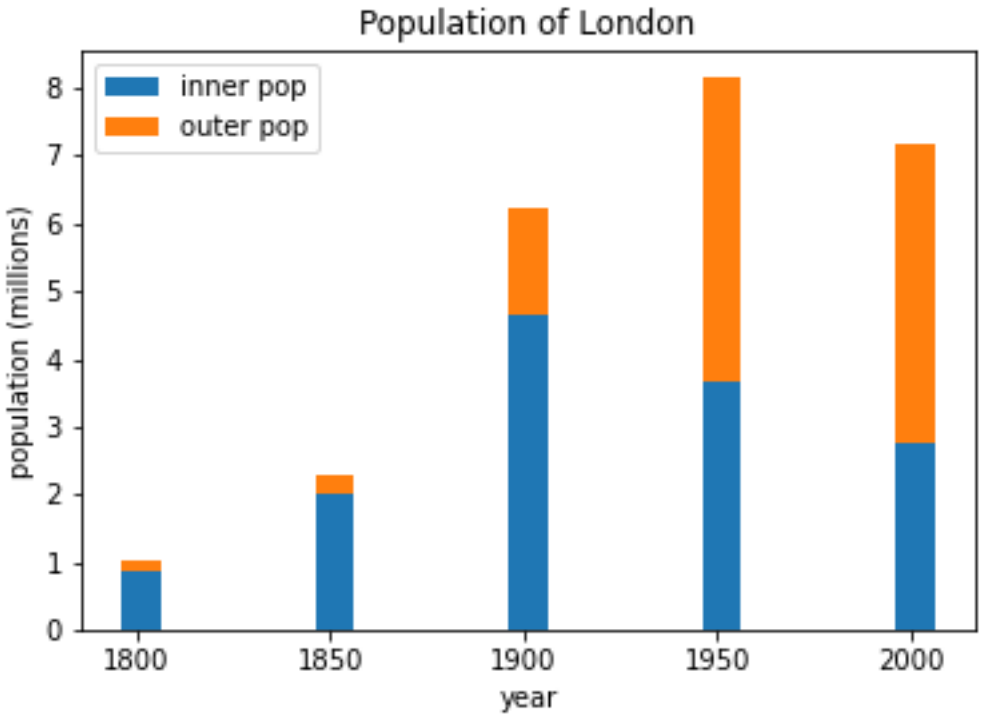
Visualisation 2: Evolution of GDP per head for USA and BRICS countries.



A line plot is a good way to show the evolution over time of the GDP per head.

The (inflation adjusted) GDP per head of the USA continued to rise over the 30 years period. The financial crisis is visible as dip around 2010. Chine and India grew from a low bases. The GDP per head of the remaining three BRICS more or less stagnated. (Note that one could consider a logarithmic scale for better visibility of low values).

Visualisation 3: London populations



A stacked bar plot (see the *advanced plotting* document attached to lecture 3) is a good way to illustrate the overall evolution of the population of greater London as well as the shift between inner and outer parts.

The population of London is growing until 1950 and then stagnating/declining. The relative population of inner London is shrinking throughout time.