

## Data analysis

1. Import the population data from the excel sheet. To obtain population data for the years 2012 - 2017, extrapolate the total population for each state and each year, with the data from 2011 and 2018 assuming a linear increase (or decrease).
2. Take the dataset of pneumonia female cases from the excel sheet and compute the lethality for corresponding years and state. What is the average lethality of all states, and what are the values of the confidence interval  $\pm 1$  SD? Check the literature value of this disease. Does your confidence interval include this value?
3. Compute the mortality per year and state. How can you visualise this data? Show the results using an appropriate graph.
4. Compute the sum of cases over the years per state. Make a separate pie chart which plots the share of cases per state.
5. Large states have larger case numbers. How can the population be taken into account? Find a suitable graph.
6. Does the mortality correlate with the population density? Explain your results.