

# Assignment 1

## Data visualization for economics

Due date: October 7, 2025

The assignment should be done using RMarkdown and the final output should be a pdf file. The answers should show the R code used to produce the results as well as the results themselves.

1. Install the ‘ukelection2019’ package by typing:  
`remotes::install_github("kjhealy/ukelection2019")` (0.5 pt)
2. Load it and look at the table it provides. (0.25 pt)
3. What were the results in the Dover constituency? (0.75 pt)
4. How many constituencies are there? (0.75 pt)
5. How many candidates did each party run in the election as a whole? (0.75 pt)
6. Show the number of candidates fielded by party from highest to lowest. (0.75 pt)
7. Calculate the percentage of all candidates fielded by each party (0.75 pt)
8. Find the five worst-performing candidates overall, as measured by number of votes. (0.75 pt)
9. Find the five largest constituencies in the country as measured by votes cast (0.75 pt)
10. Find the total number of votes cast nationally for the Labour and Conservative parties. (0.75 pt)
11. Find the ten largest vote-winning candidates in the country, as measured by percentage of vote share in their constituency. (0.75 pt)
12. Show in one single bar graph the votes share of the Labour and the Conservative parties for each of the 5 biggest constituencies in terms of electors. There should be two bars per constituency. (1.25 pt)
13. Build a graph showing how the votes share for the Labour and for the Conservative parties are distributed. ( 1pt)
14. Based on a graph, illustrate how turnout is (differentially) correlated with votes share for the Conservative and the Labour party. Briefly comment. (1.25 pt)

15. Find the 5 constituencies in which the combined vote share of the Green and UKIP is the highest (Hint: you may need pivoting functions) (1.5 pts)
16. Build a graph showing, in each of these 5 constituencies, i) the combined vote share of the Green and Brexit Party, ii) the vote share of the Labour, iii) the vote share of the Conservative. (1.5 pts)
17. In how many constituencies was the combined vote share of the Green and UKIP less than 2%? (1 pt)
18. Plot the vote share of the Labour party against that of the Conservative party. How are the two correlated? (1.5 pts)
19. Create a new data.frame excluding all constituencies in which the Liberal Democrat received 0% of the votes share. Based on this new data.frame, build a single graph showing i) the correlation between the votes share of the Liberal Democrat and of the Conservative in blue and ii) the correlation between the votes share of the Liberal Democrat and of the Labour party in red. Add a legend. Briefly comment the resulting graph. (Hint: if a variable name has a space in it, you can refer to it in R using backtick symbols, e.g. 'The Independent') (2.5 pts)
20. Save all your graphs using the "here()" function. (1 pt)