

R Lab

Use R and write your own code to do the following tasks.

Please print out your R or RStudio session together with the output.

1. Read in the data from *R_lab.csv* and store it in a dataframe named `dat`. “csv” stands for “comma separated values”, you can open the file in MS Excel but you don’t need to. The file is available for download from <https://tinyurl.com/R-Ttrl>.
2. Store the vector `x` contained in `dat` in a new vector named `A`.
3. Create a vector named `temp` consisting of the values 1 through 25 in increments of 1. Next, use a logical statement to access only values 6 through 25 of the `temp` vector and store the results in a new vector called `B`. Note that `B` should contain the values 6, 7, ..., 25.
4. Check the length of `A` using R.
5. Check the range of `A` using R.
6. Subtract the mean of `B` from the mean of `A`.
7. Create a 20×3 matrix `M` with first column the vector `A`, second column the vector `B`, and third column a vector with all ones.
8. Construct a plot of `x` and `y` (stored in `dat`) where `x` is the x variable and `y` is the y variable. Label the x-axis “x-axis” and the y-axis “y-axis”.
9. Title this display “Y versus X”.
10. Write a function named `range2` that takes as an input a numeric vector `x` and computes the $\max(x) - \min(x)$. Test your function with the vector `A`.