

# Software Tools, R - Homework2

**Due date :** 29 Nov 2019, 18:00

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## Objectives

- Manage Working Directory
- Download, Copy, Paste and Find the Data
- Read Data with **utils** (R utility functions) (*utils* is one of the default packages of R)
- Identify and Indexing Data
- Use Condition Statements
- Plot the Data

**Hints :** You can use these functions and the main web page of our course - [LINK](#)

```
getwd()
setwd()
list.files()
file.path()

read.csv()
read.delim()
read.table()

attributes()
attr()
colMeans()
plot()

if (condition) {

} else {

}
```

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## Instructions

### PART-1 Manage Directory, Find and Read Data

1. Go to main webpage of course
2. Open Data “Istanbul\_Goztepe\_Mean\_Temperature\_1839-2013\_Monthly” (.dat) [LINK](#)
3. Copy and Paste it in your “Downloads” directory in a text file with “.dat” extension
4. Open your R Studio

### WAY 1 - GO TO FILE

5. Check your Project Name and your Working directory
6. Go to “Downloads” directory in R Studio
7. List files and Read Data with three different read functions (read.csv(), read.delim(), read.table() )
8. Choose the best
9. Assign your data as “temp\_1”

## WAY 2 - CALL THE FILE

10. Go Back to your Working directory
11. Define your file path with `file.path()`
12. Assign the path a new variable as “`path_my_file`”
13. Use your best `read()` function
14. Read the file with “`path_my_file`”
15. Assign your data as “`temp_2`”

## WAY 3 - IMPORT THE FILE

16. Use “Import Datase”
17. Assign your data as “`temp_3`”

## WAY 4 - DOWNLOAD THE FILE

18. Copy the LINK of data
19. Use your best `read()` function
20. Read the file with this function and LINK
21. Assign your data as “`temp_4`”

Last step

22. Choose your favorite " `temp_1` or `_2` or `_3` or `_4`" and assign as just “**`temp`**”

## PART-2 Play with the Data

Meet with the Data

1. Look at structure
2. Learn attributes and dimensions
3. Rename attributes

Clear NA and Choose Colomn

4. Print “`temp`”
5. Delete rows which include NA ( `na.omit()` )
6. Assign it as “`temp_b`”
7. Select summer season
8. Assign it as “`temp_b_summer`”

Use Condition Statements - if

9. Compare June Mean Temperature and July Mean Temperature
10. IF June Mean Temperature is LOWER than July then print “June has LOWER Mean Temperature.”

Use Condition Statements - else

11. ELSE print “June has HIGHER Mean Temperature”
12. Calculate mean of each month ( `colMeans()` )

Plot

13. Plot temperature for June
14. Add title and unit
15. Edit x-axis, which years are they ?
16. What about July and August ? Plot them.
17. Is there any strangeness thing, what do you think ? Compare three plots.

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*For questions or problems, please use Ninova*

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