Base R practice

Experiential Data science for Undergraduate Cross-disciplinary Education

Dr. Kim Dill-McFarland, U. of British Columbia

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Base R practice

These problems are designed to help you practice concepts and functions covered in the 'Base R tutorial'.

Learning objectives

- Execute commands in base R to:
  - Load tabular data
  - Access columns and rows within a data frame
  - Perform basic calculations on tabular data
  - Subset a data frame

Setup

Open a new RStudio session and create a Project. Download the data file `data.csv` using the following command in RStudio. Also, start a new R script to save you responses.

```
write.csv(
  read.csv("https://raw.githubusercontent.com/EDUCE-UBC/workshop_data/master/data.csv"),
  "data.csv", row.names=FALSE)
```

Not sure what a Project is? Be sure to include the "RStudio tutorial" in your materials!

If you would like to learn more about Saanich Inlet and these data, checkout our description.

Practice

Load data

1. Read in `data.csv` using one of the `read.` functions and save it as an object in RStudio named `dat`. Be sure to include any additional arguments needed to correctly format the data in R.
   - You will use these data in some of the following exercises.

Access data

2. Use the `$` operator to access the `Season` column.
3. Access the 17th oxygen value (`O2_uM`) using `[ ]` and/or `$`.

Basic calculations

4. Compute the natural logarithm of 4, base 2 logarithm of 4, and base 4 logarithm of 4. *Hint*: Use help `?` to find out more about the `log()` function.
5. Calculate the minimum, maximum, and mean of the `Depth_m` variable.

Subset data

6. Determine what `Depth_m` value occurs in the 20th row
7. Return the cell where oxygen (`O2_uM`) equals 91.115
8. Subset the data to observations where `Depth_m` equals 120 m.
