Einführung in die Modellierung dynamischer räumlicher Systeme

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Introcuction to R 20.10.2009

Use the R-Intro manual and the reference charts on \zdmfiles\exch\Modelling_2009 and ask if you need help.

1 Create a directory for all exercises of this semester called e.g. Modelling_WS2009.

2 Start R

3 Working in R
Document the commands you used in a script.
It is recommended to display the objects and use class(object) to see what happens.
3.1. Execute some simple calculations (e.g. 5 / (4 + 2)) and save the results as objects in the workspace..

3.2. Create the vector (0, 0.1, 0.2, ..., 1) with seq() and (1, 1, 1, 1, 1, 5, 5, 5) with rep().
3.3. Use the first vector from above and add / multiply numbers to create the vectors (1, 1.1, 1.2, ..., 2) and (2, 2.2, 2.4,..., 4).
3.4. Create an empty vector of numbers by numeric().
3.5. Set the 3rd element to 4 and see what happens.
3.6. Create a matrix with numbers 1 to 12 with 1 2 3 the first row.
3.7. Change the 5 to a 15.
3.8. Copy the "students.Rdata" from zdmfiles/exch/Geostatistics_SS2009 to the directory and load it to the current workspace.
3.9. Of which class is the object `students`?
3.10. Create a vector of the first column of `students`.
3.11. Try to create a vector of the first row of `students`, what happens, why?

4 Working with R
4.1. Find out the path of the working directory.
4.2. Change the working directory to the directory created above.
4.3. Open a script and type some commands (e.g. from 3) and comments (behind #).
4.4. Execute the commands line by line or in total.
4.5. Save the script to the working directory.
4.6. Close R and safe the workspace.
4.7. Open R, see which Objects are in the workspace and remove them all. Close R and do not save the workspace. Open R. Which objects are in the workspace?
4.8. Plot the `weight` of `students` against their `length` and save it as a .pdf and as a .jpeg (try with `students$Length`).
4.9. Download the file zdmfiles/exch/Geostatistics_SS2009/VMUEVMSS.txt. Read it and save it to a data frame.

5 Getting Help
Use the given help sources to solve the problems above.
Search on the reference chart / by the search function for the command you need
Use `?command` (e.g. `?abs`) to get information how to use the parameters. Examples are often the most useful part, try them.