Code Evaluation questionnaire

this document aims to provide a guideline how to evaluate (R) code in my course

Please note: not all item might be applicable - please cross-out any non-relevant part.

1. **Informative naming of the file(s)/package/commands?**
   ☐ absolutely   ☐ not really because: _____

Meta-Information

2. **Meta-information does exist?**   ☐ Yes   ☐ No

3. **Authors name**: _____

4. **Contact details are provided (email, URL, git)?**   ☐ Yes   ☐ No

5. **Date of development is listed?**   ☐ Yes   ☐ No

6. **Main purpose of the analysis is explained?**   ☐ yes   ☐ not really because: _____

7. **Needed input is defined?**(format incl. which information are requirede.g. shp with column of type x and content of y)   ☐ yes   ☐ not really because: _____

8. **Output is defined?** (incl. explanations, format etc.)   ☐ yes   ☐ not really because: _____

9. **R version used and R packages needed are listed?**   ☐ yes   ☐ not really because: _____

10. **Operating system used is listed or on which one it has been tested?**   ☐ yes   ☐ no

11. **Required other software is explained?**   ☐ yes   ☐ not really because: _____

12. **Informative header is well formatted?**   ☐ yes   ☐ not really because: _____

13. **All necessary details are provided?**
    ☐ Yes, I understand its aim and needed input
    ☐ No, I need to check the script carefully
    ☐ just some parts are provided.

14. **What do you think until now what the output/results will be? Describe it briefly before checking the actual script:**

    _____

    _____

    _____

_____

Actual Code for the Analysis

15. **Data import is generic?** (no full paths, direct import possible)   yes ☐—☐—☐—☐—☐ no

16. **Well commented?**   horrible ☐—☐—☐—☐—☐ fantastic
    remarks: _____

17. **Ratio of Comments vs. Code is adequate?**   horrible ☐—☐—☐—☐—☐ fantastic

18. **Easy to read?** (appropriate indentation and spacing)   horrible ☐—☐—☐—☐—☐ fantastic

19. **The script is written for generic data analysis?**   ☐ absolutely   ☐ not really because: _____

20. **Does the code require a rigid data structure?** (e.g. specific column names in data.frame)
    ☐ absolutely   ☐ no, quite flexible

21. **Is the code flexible?** (i.e allows inputs of different data types)
    ☐ absolutely   ☐ not really because: _____

22. **Data can be retrieved without contacting the author?**
    ☐ absolutely   ☐ not really because: _____

23. **Code follows a logical structure?** ☐ absolutely ☐ not really because: _____

24. **Analysis only includes relevant codes?** (no code output which is not used afterwards) ☐ absolutely
☐ not really because: _____

25. **Are the derived variables self-explanatory?** (e.g. through clear variable names and/or comments)
☐ absolutely ☐ not really because: _____

26. **A standard documentation structure/naming convention is applied?**
☐ absolutely ☐ not really because: _____

27. **The analysis can be run easily on other data sets?** (generic code)
☐ absolutely ☐ not really because: _____

28. **Appropriate use of commands - no unnecessary complex code snippets?**
☐ absolutely ☐ not really because: _____

29. **(If a function) is provided: are example code/data provided/explained?**
☐ absolutely ☐ not really because: _____

30. **Does the code minimize the storage of data?** (e.g. removal of unused variables) ☐ yes ☐ no

31. **Does the code minimize the use of RAM?** (e.g. appropriate subsetting, no re-reading data)
☐ yes ☐ no

32. **Data handling and transformation is coherent and well commented?** yes ☐—☐—☐—☐—☐ no

33. **Novel code not covered in the course is used?** a lot ☐—☐—☐—☐—☐ just known commands

34. **Script is actually a package?** ☐ yes ☐ no

35. **Proper documentation (manual pages) is provided for this package?** ☐ yes ☐ no

Code Impression

36. **The script triggered interest and you learned new things?** yes, a lot ☐—☐—☐—☐—☐ no, not a bit

37. **Please describe what was special/interesting:**

_____

_____

_____

38. **Script is fast (based on performance measures)** yes ☐—☐—☐—☐—☐ no

39. **The code can be executed without any fixes?** ☐ absolutely ☐ not really because: _____

40. **Which parts should be improved?**

_____

_____

_____

41. **What is missing?**

_____

_____

_____

_____

Graphs and Maps

42. **Graphs or Maps are providing key messages?** ☐ absolutely ☐ not really because: _____

43. **Plots/Maps are are self-explanatory?** ☐ absolutely ☐ not really because: _____

44. **Plots/maps are informative?** yes ☐—☐—☐—☐—☐ no

45. **Graphs include all necessary items?** (legend, axis title etc.)
☐ absolutely ☐ not really because: _____

46. **Plots/maps are not overloaded?**   yes, clean □—□—□—□—□ no, totally cluttered

47. **Plots/maps layout is consistent through-out the script?**
□ absolutely   □ not really because: _____

48. **Plots/maps have appropriate colour scheme?**   □ absolutely   □ not really because: _____

49. **Maps have scale bars, legend, coordinates?**   □ absolutely   □ not really because: _____

50. **Maps include landmarks, cities, roads for orientation?**
□ absolutely   □ not really because: _____

Overall Impression

Please evaluate the following parts

51. **Readability**   horrible □—□—□—□—□ fantastic

52. **Information**   horrible □—□—□—□—□ fantastic

53. **Structure**   horrible □—□—□—□—□ fantastic

54. **Innovation**   horrible □—□—□—□—□ fantastic

55. **Do you think it qualifies for being scientifically reproducible?**

□ yes

□ no

□ needs some more work: _____

56. **Is the code really worth the effort for you to check it out?**
□ Yes, totally.   □ Probably not.   □ Don't know.

57. **Would you be interested to use this script for your analysis?**

□ yes, would love to

□ no, not really anything I couldn't do myself

□ yes, definitely parts of it.

□ No clue what is does. I just can't figure it out.

58. **Please describe your impression:**

_____

_____

_____

59. **When you check your anticipated results/output (Q 14) at the beginning - are your expectations met? and if no, why not:**

_____

_____

_____

60. **What do you especially like about this script:**

_____

_____

_____

_____

_____

61. **What do you especially <u>dislike</u> about this script:**

_____

_____

_____

_____

_____