Applied Epidemiology I: Data Management

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Acknowledgements

This course material in data management is based on my learning from Anna Johansson's workshop at KI library[1], teachings in Good Data Management Practice in Epidemiological Research, and MEB Guidelines for Documentation and Archiving Version 6 [2]. I personally want to thank for their effort on education in data management.
I especially want to thank Marlene Stratmann for reviewing the slides and Prof. Paul Dickman for providing me with suggestions to improving the teaching.

[1] This workshop is currently available on KI Play as well.

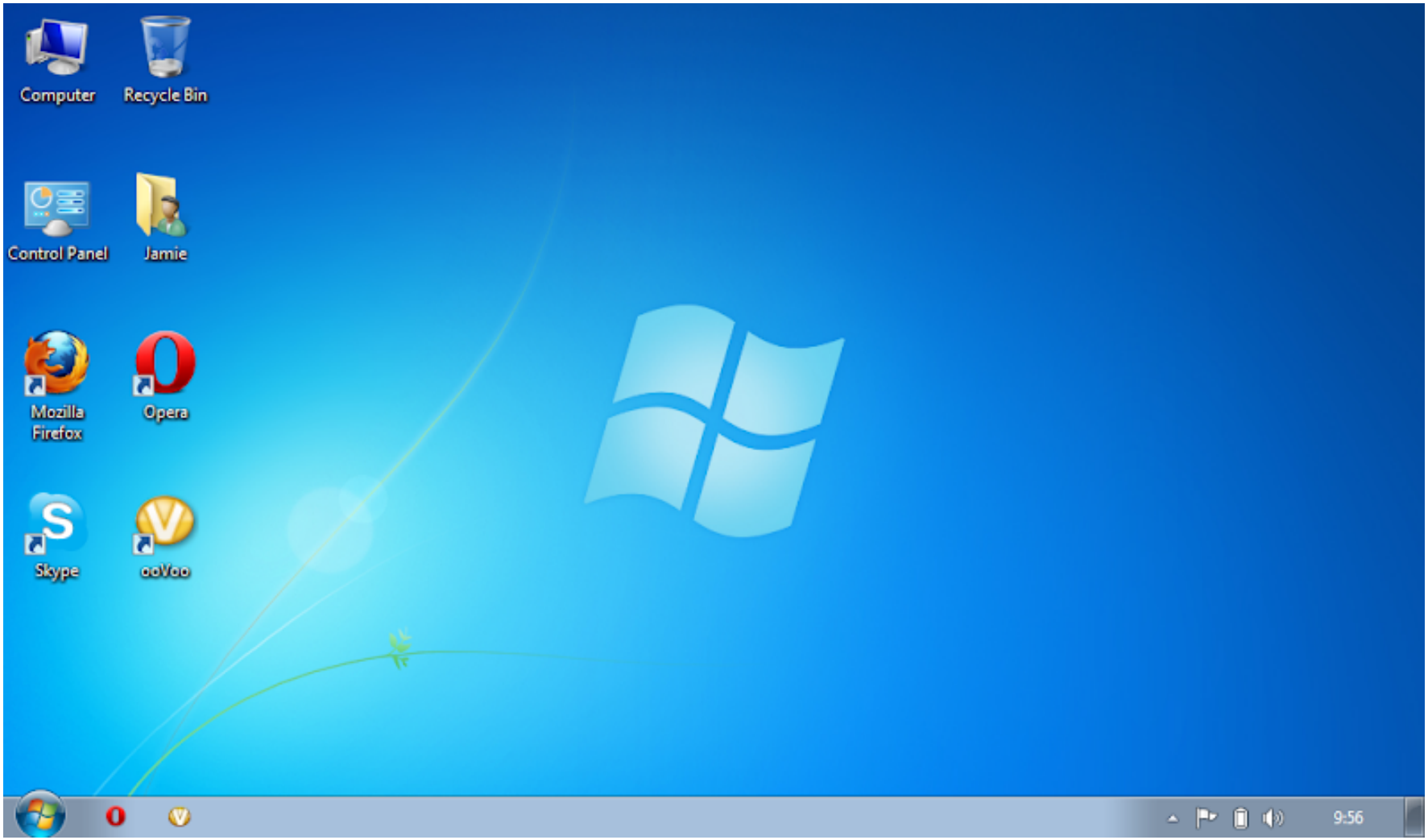
[2] The Department of Medical Epidemiology and Biostatistics, Karolinska Institutet. MEB Guidelines for Documentation and Archiving Version 6. 2018.

Outline

1. What if no data management?
2. Aims of data management (also learning outcomes)
3. Good folder structure
4. Good documents
5. Good Readme.txt
6. Good habits on coding
7. Other do's and don'ts
8. Wrap it up

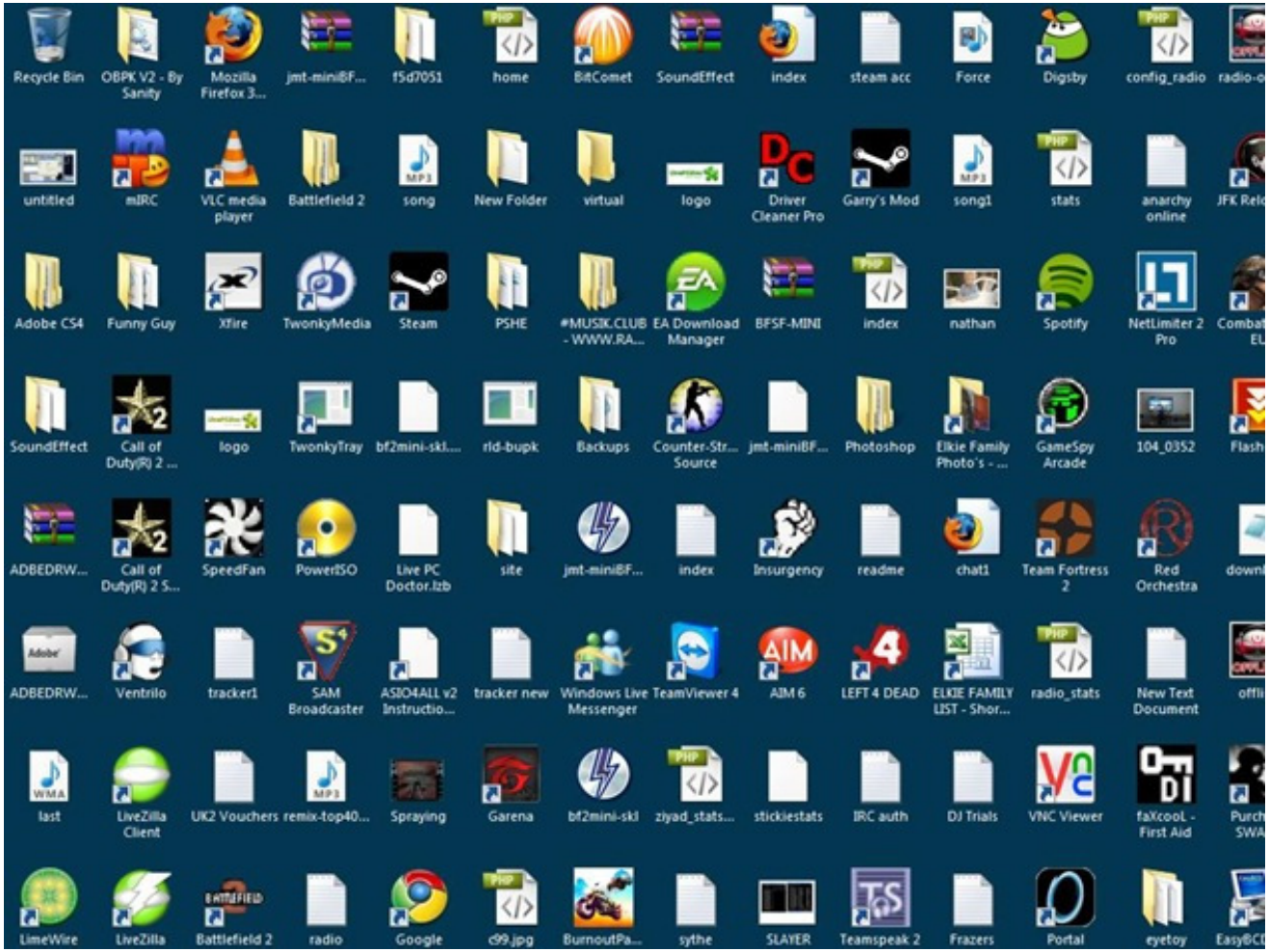
What if no data management?

In the beginning,



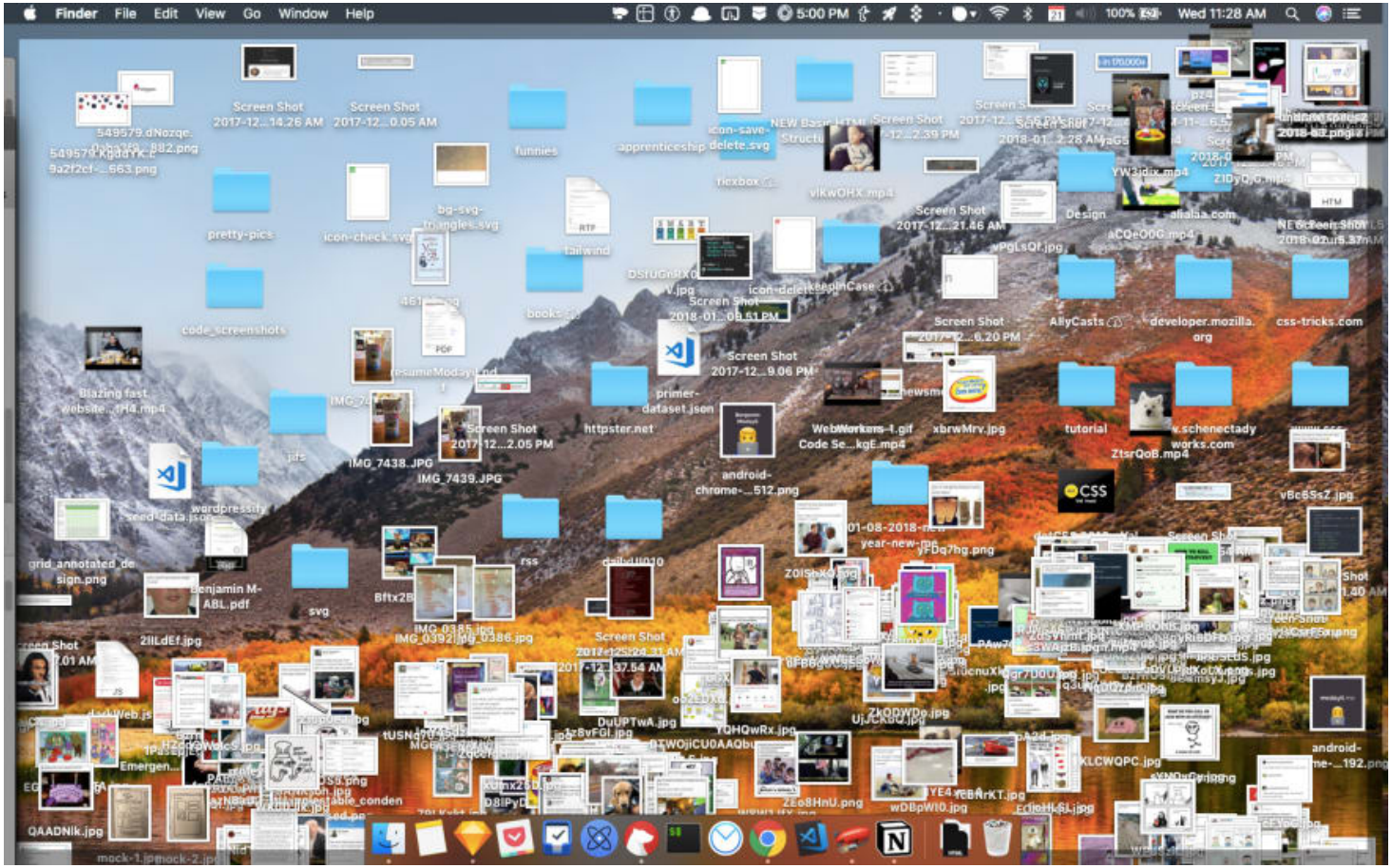
What if no data management?

In the half-way of the research,



What if no data management?

At the end, or saying you cannot even walk till the end?



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- if your classmate asks you to teach her how to write a certain Stata code, you remember you've done it before, but where did you put it?
- if your collaborator needs to take over your analysis, can he/she understand what you've completed?

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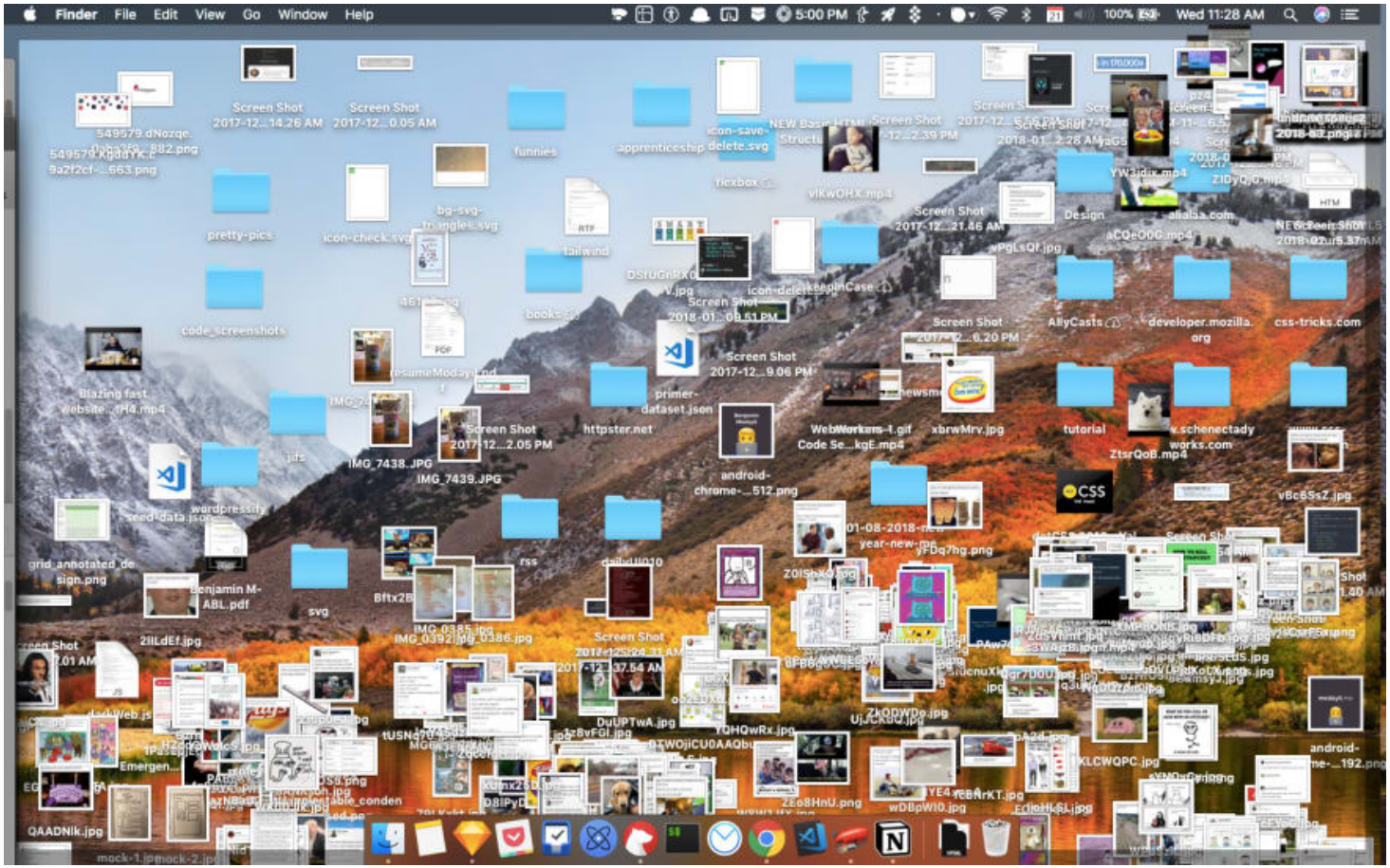

What if no data management?

So I would say you need to have a friend called

Data Management

Aims of data management (also learning outcomes)

- To ensure the analysis is reproducible

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- To ensure the analysis is reproducible
- To work coherently and efficiently with yourself
- To ensure the project can be understood by others (supervisors, collaborators, and future readers)
- To create a good work flow and enhance accuracy of work

Good folder structure

The core elements of folders are listed below:

- Data
- Documents
- Log
- Output
- Program

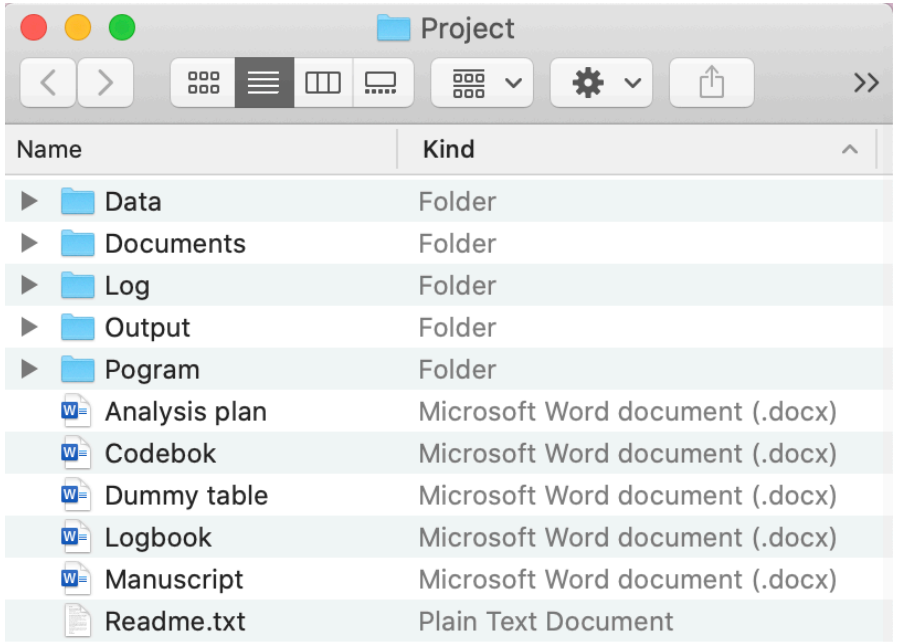

Figure: Good project folder structure. (Please bear with me that I am Mac user!)

Good documents

Besides good folder structure, you should also consider keeping good documents

- Analysis plan
- Codebook[3]
- Dummy table
- Logbook[3]
- Manuscript

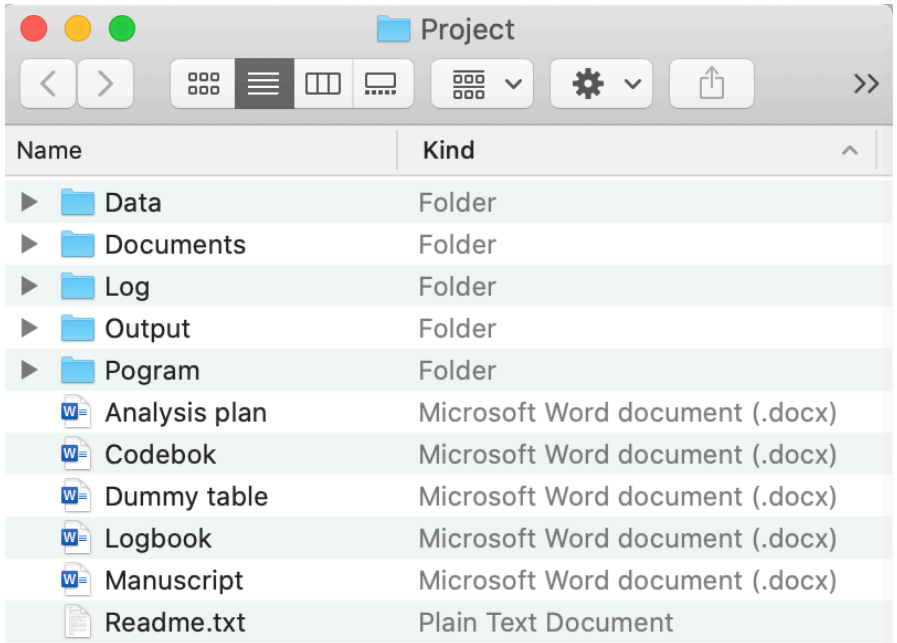

Figure: Good project folder structure.

[3] can be included in analysis plan as well

Good Readme.txt

- You should illustrate how to use these documents/folders in the Readme.txt.
- A good Readme.txt is a good tourist guide in this project folder.

Figure: Good project folder structure.

Good habit on coding

- **log on**
- Filename
- Study
- Created
- Updated
- Purpose
- Note

- **Program**

- log close

Good habit on coding

- Talk to yourself what you are doing.
- You've got a friend in me! (Parallel analysis)
- Rubber duck debugging

Other do's and don'ts

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4. Don't replace the original files or variables.
5. Don't edit the data directly. Please write syntax.

Wrap it up

- In summary, a good data management contains GOOD
  1. folder structure
  2. documents
  3. readme
  4. habits

Wrap it up

- In summary, a good data management contains GOOD
  1. folder structure
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- How can this lecture help you?
- The templates you can use for DM your current and future projects.