Considerations for Optimal File Names

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To achieve good file names, the key is *consistency*. File names should be descriptive, but kept concise. You should also communicate with your research team or co-workers when developing a file naming convention. This ensures that everyone follows it well.

Three principles to follow

1. **Machine-readable**: making sure that the file name is compatible with all computer systems

2. **Human-readable**: making sure that the file name is comprehensible to humans presently and in the future

3. **Support default ordering**: making sure that the file name can sort itself without any manual assistance

Bad file names	Good file names
• 10_data 2.txt	• 010_data_version02.txt
• Figure 8.png	• figure08_trees.png
• finalrevision_final.docx	• WaterCycle_processed.docx
• Lily'sschedule&plan 202209.xlsx	• 2022-06-10_LilySchoolPlan.xlsx

Helpful links:

Data Carpentry. File organization: Naming. https://datacarpentry.github.io/rr-organization1/01-file-naming/index.html

Harvard Library Guides. File naming best practices.https://guides.library.harvard.edu/c.php?g=1033502&p=7491825

Stanford University Libraries. Data best practices and case studies. https://guides.library.stanford.edu/data-best-practices

Questions? Contact: research.data@ubc.ca

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Machine-readable

Use only the following for file names to be machine-readable:

- Latin alphabetic characters (abc) and Arabic numbers (123)
- To space file name elements:
  - Snake case: use underscores _ between words and numbers
  - Camel case: use capital letters between words and numbers
  - Hyphens: use hyphens between words and numbers
- Avoid empty spaces and special characters like: ~!@#$%^&*(),{}"'
- Be mindful of case sensitivity, as some programs may only search for files of a certain case (only uppercase or lowercase)

Human-readable

Provide descriptive information in a concise manner:

- Aim to have 3 to 5 elements per file name
  - For example: LibraryCoverLetter.txt, script010_clean_data.py
- Don't include the type of file in the name. For example, don't put "Excel" if your file is an Excel spreadsheet

File names should follow a consistent naming method that is understandable to you and anyone else with access. This naming method should be documented in your README file, especially if you're using acronyms, abbreviations, and/or special codes. This is to ensure you understand what they mean in the future.

Support default ordering

Sometimes you may want to have your files sort themselves without manual help. Two common ways to achieve this:

- *Chronological order*: include the date (in ISO 8601 format YYYYMMDD or YYYY-MM-DD) as the first element
- *Logical order*: include sequential numbers as the first element, with leading zeros as the first digit(s) to ensure default logical sorting
  - For example: 01_read_data.docx, 02_clean_data.R

Version number and version type should be added last as an element. Remember to use leading zeros too for version numbers, and space the version type using a spacing case.

- For example: PSYC217_draft_proposal_v03