Using .Rproj to Manage Working Directories in RStudio

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Why Avoid Absolute Paths?

When you write code like this:

```
read.csv("/Users/qingyin/Dropbox/UMN Course/R_Review_2025/Data/data_example.csv")
```

- It only works on your computer.
- Student with different usernames, file structures, or systems cannot run the code.
- Sharing projects becomes difficult.

What is an `.Rproj` File?

- An R Project (`.Rproj`) is a file that defines a project in RStudio.
- When you open an `.Rproj`, RStudio automatically sets the working directory to the project's root folder.
- This means file paths can be relative to the project, making your code portable.

How to Create an R Project?

1. Open RStudio
2. Go to `File` -> `New Project`
3. Choose `New Directory` or `Existing Directory`:
    - New Directory: RStudio creates a new folder with an `.Rproj` file inside.
    - Existing Directory: Add an `.Rproj` file to a folder you already have (e.g., `R_Review_2025`).

4. Give it a name (if new) and click `Create Project`.

You'll now see an `.Rproj` file in your folder.

Organizing Your Project (important!)

Example structure:

```
R_Review_2025/
  R_Review_2025.Rproj
  Data/
       data_example.csv
  scripts/
       analysis.R
  outputs/
       results.csv
  slides/
       Lec0.pdf
```

Using Relative Paths

```
# Correct (relative path)
read.csv("Data/data_example.csv")

# Wrong (absolute path)
read.csv("/Users/qingyin/Dropbox/UNM Course/R_Review_2025/Data/data_example.csv")
```

- Everyone who has the same project folder structure can run the same code.
- No more path errors when sharing scripts.

Tips

- Always open the `.Rproj` file before starting work.
- Use **relative paths** inside scripts.
- Keep your project organized with subfolders (`data/`, `scripts/`, `outputs/`).
- Avoid `setwd()` in scripts. The `.Rproj` handles it for you.