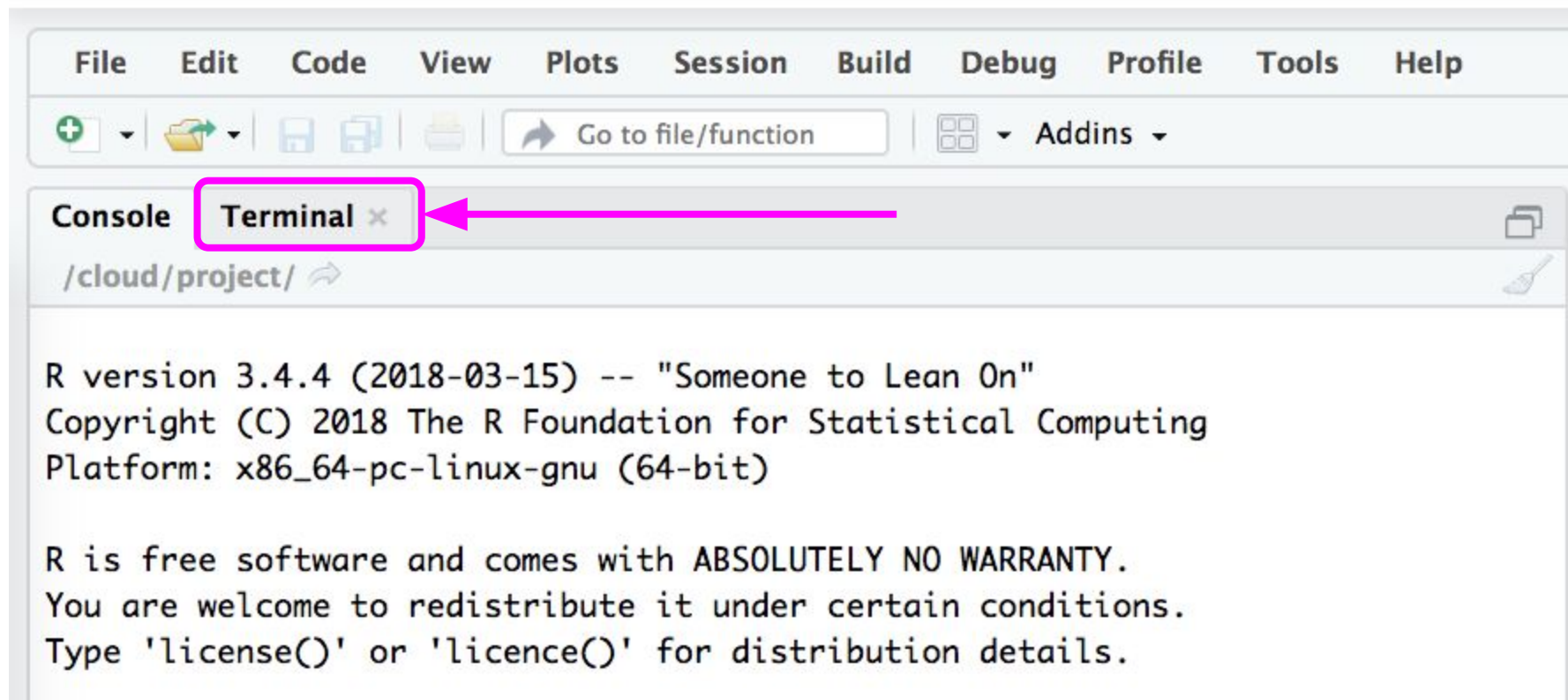


# Managing Files in the Terminal



Organizing Data Science Projects



The screenshot shows the RStudio application window. At the top is a menu bar with options: File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. Below the menu bar is a toolbar with icons for creating a new file, opening a file, saving, printing, and a search bar labeled 'Go to file/function'. To the right of the search bar is an 'Addins' dropdown menu. The main workspace area is divided into two panes: 'Console' and 'Terminal'. The 'Terminal' pane is selected and highlighted with a red rectangle, and a red arrow points to it from the right. The 'Terminal' pane shows the R version 3.4.4 (2018-03-15) -- "Someone to Lean On" and the copyright notice for The R Foundation for Statistical Computing. The path '/cloud/project/' is visible in the terminal's address bar.

File Edit Code View Plots Session Build Debug Profile Tools Help

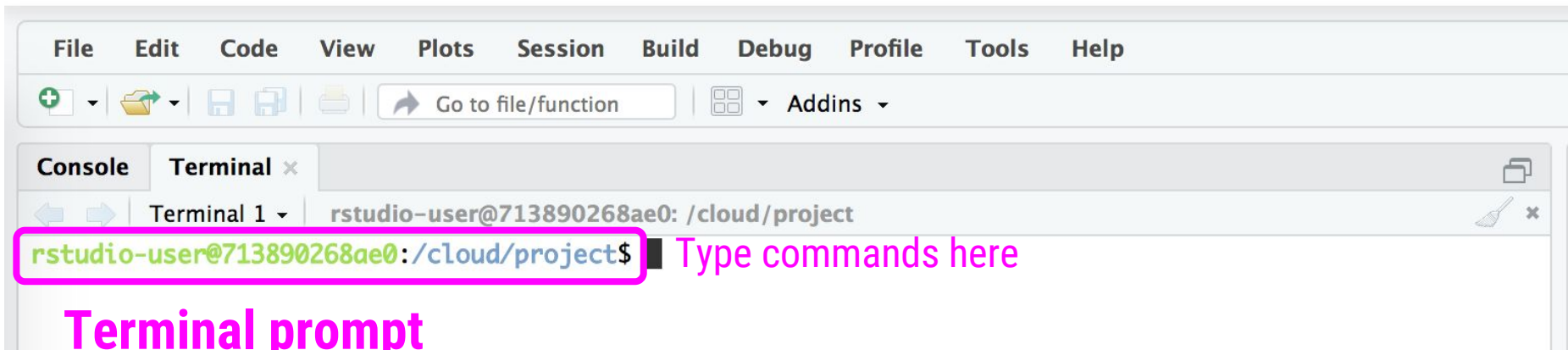
+ ▾ 📁 ▾ 💾 🖨️ 🔍 Go to file/function 🧩 ▾ Addins ▾

Console **Terminal x** 📁

/cloud/project/ 🧹

```
R version 3.4.4 (2018-03-15) -- "Someone to Lean On"
Copyright (C) 2018 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
```



# Why manage files in the Terminal?

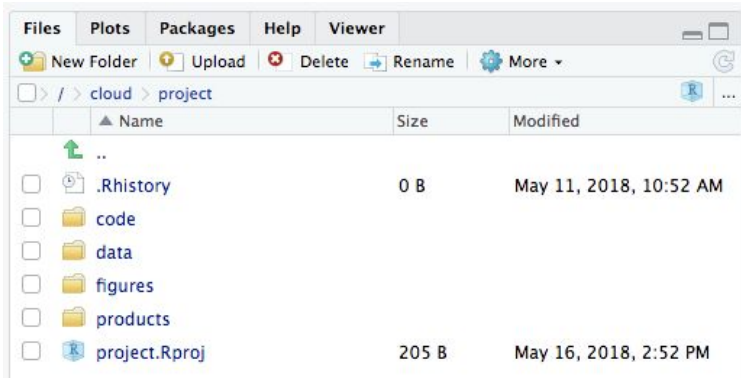
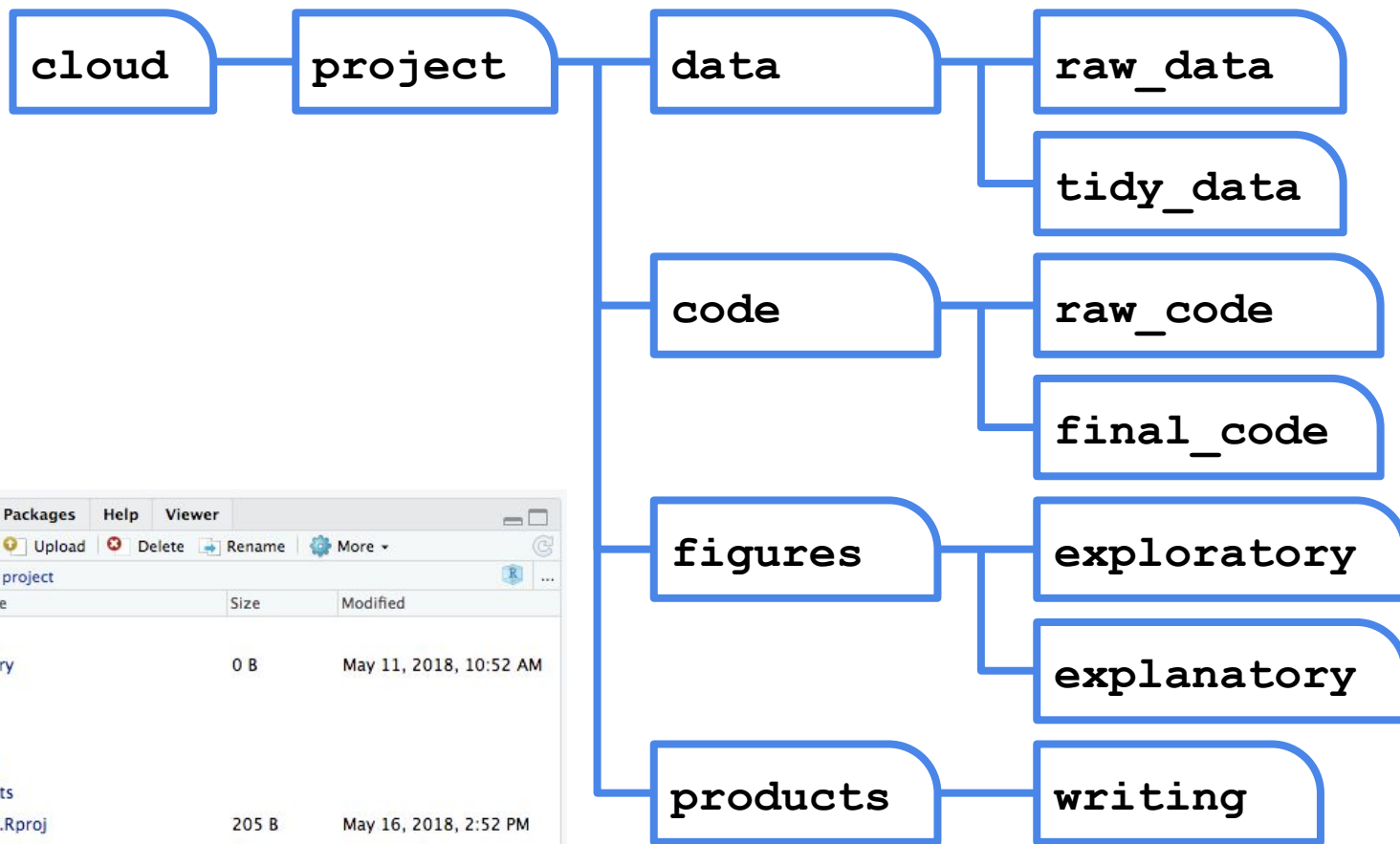
---

## **Non-Terminal**

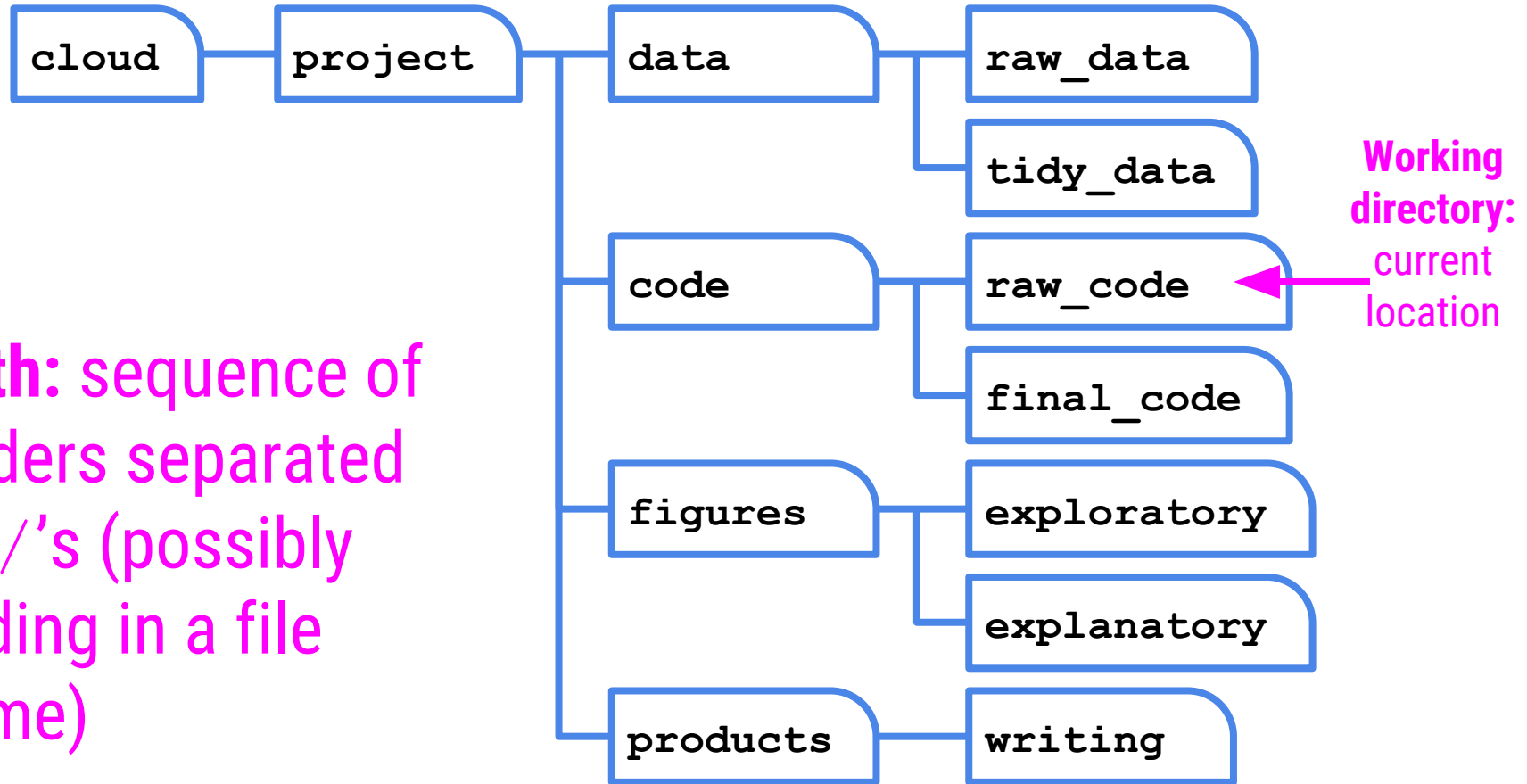
A lot of clicking and typing

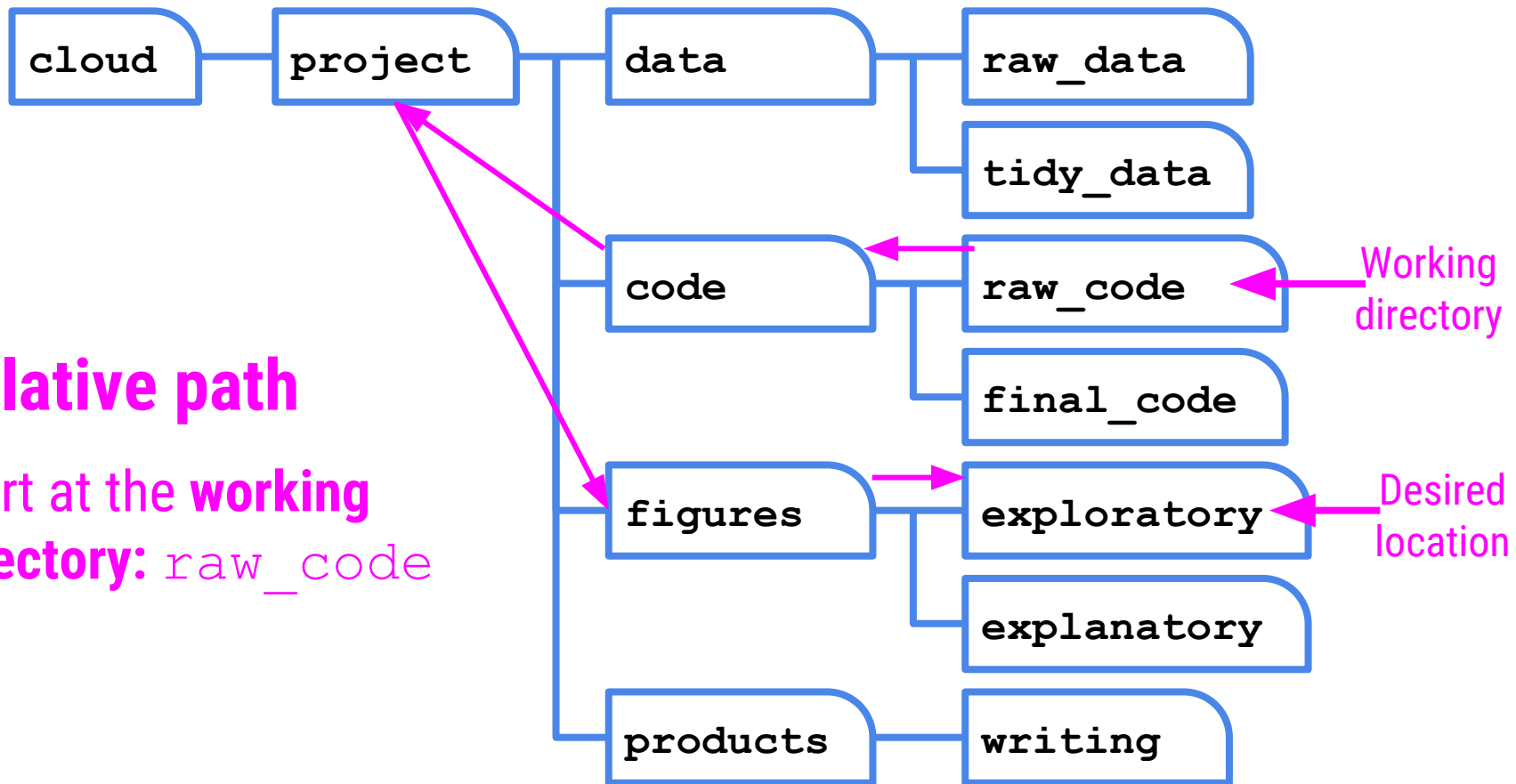
## **Terminal**

Few short commands



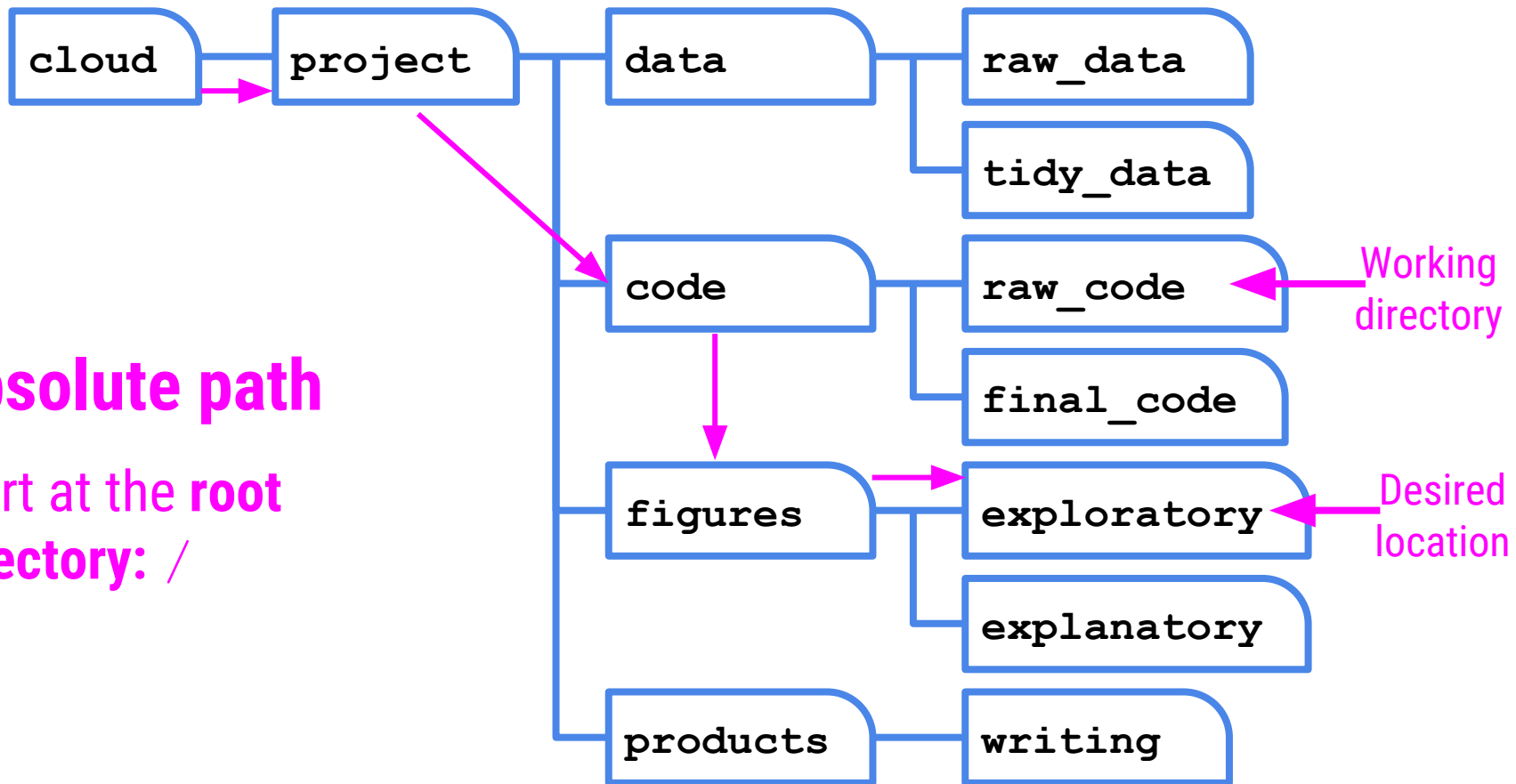
**Path:** sequence of folders separated by /'s (possibly ending in a file name)





## Relative path

Start at the **working directory**: `raw_code`



**Absolute path**

Start at the **root**  
directory: /



	In the Terminal	In town
<b>Root directory</b>	/	Town square
<b>Working directory</b>	raw_code	Library
<b>Destination</b>	exploratory	Bakery

**Absolute path:** “We’re at the library but pretend you are at the town square. Turn left, then right.”

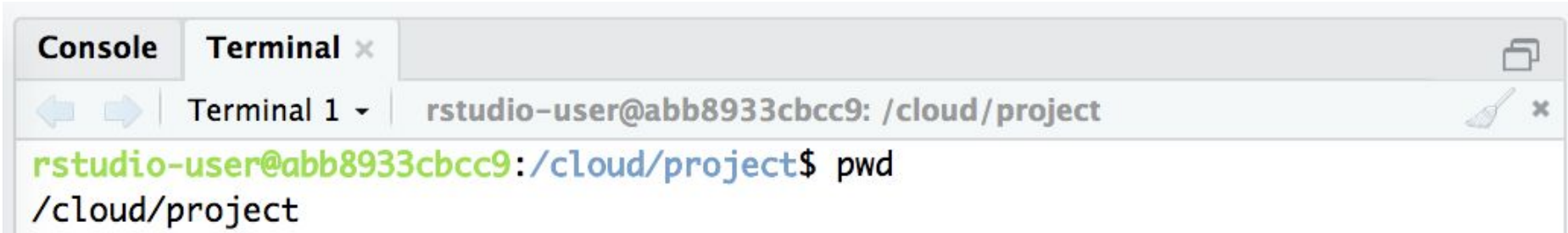
**Relative path:** “Turn right, then right again.”



# Important Commands



Where am I? `pwd`

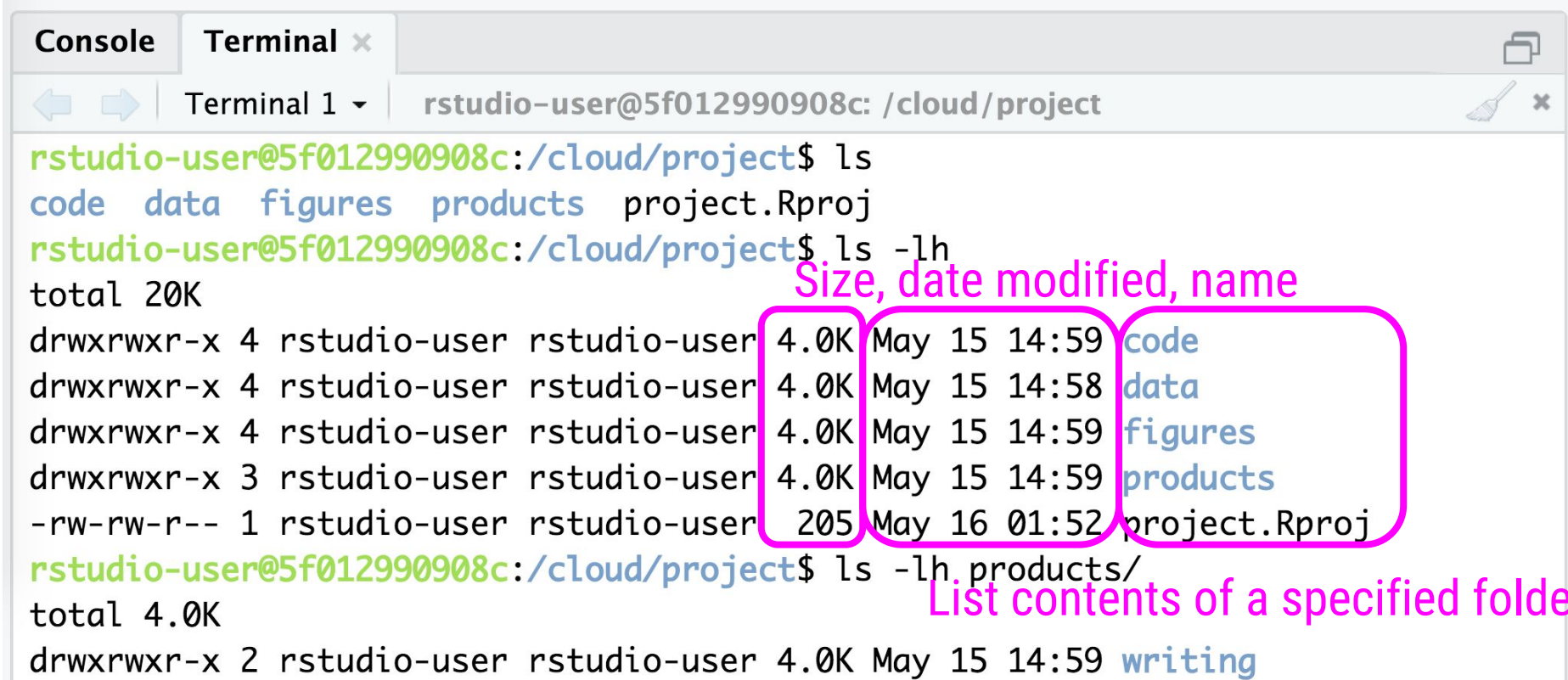


The image shows a screenshot of the RStudio interface, specifically the Terminal pane. The top bar has tabs for 'Console' and 'Terminal'. The 'Terminal' tab is active, showing 'Terminal 1' with a dropdown arrow. The terminal title bar indicates the user is 'rstudio-user@abb8933cbcc9' and the current directory is '/cloud/project'. The terminal content shows the command 'pwd' being executed, with the output '/cloud/project' displayed below it. Navigation arrows and a search icon are visible on the left and right sides of the terminal header.

```
rstudio-user@abb8933cbcc9: /cloud/project  
rstudio-user@abb8933cbcc9:/cloud/project$ pwd  
/cloud/project
```



# What is in this folder? `ls`



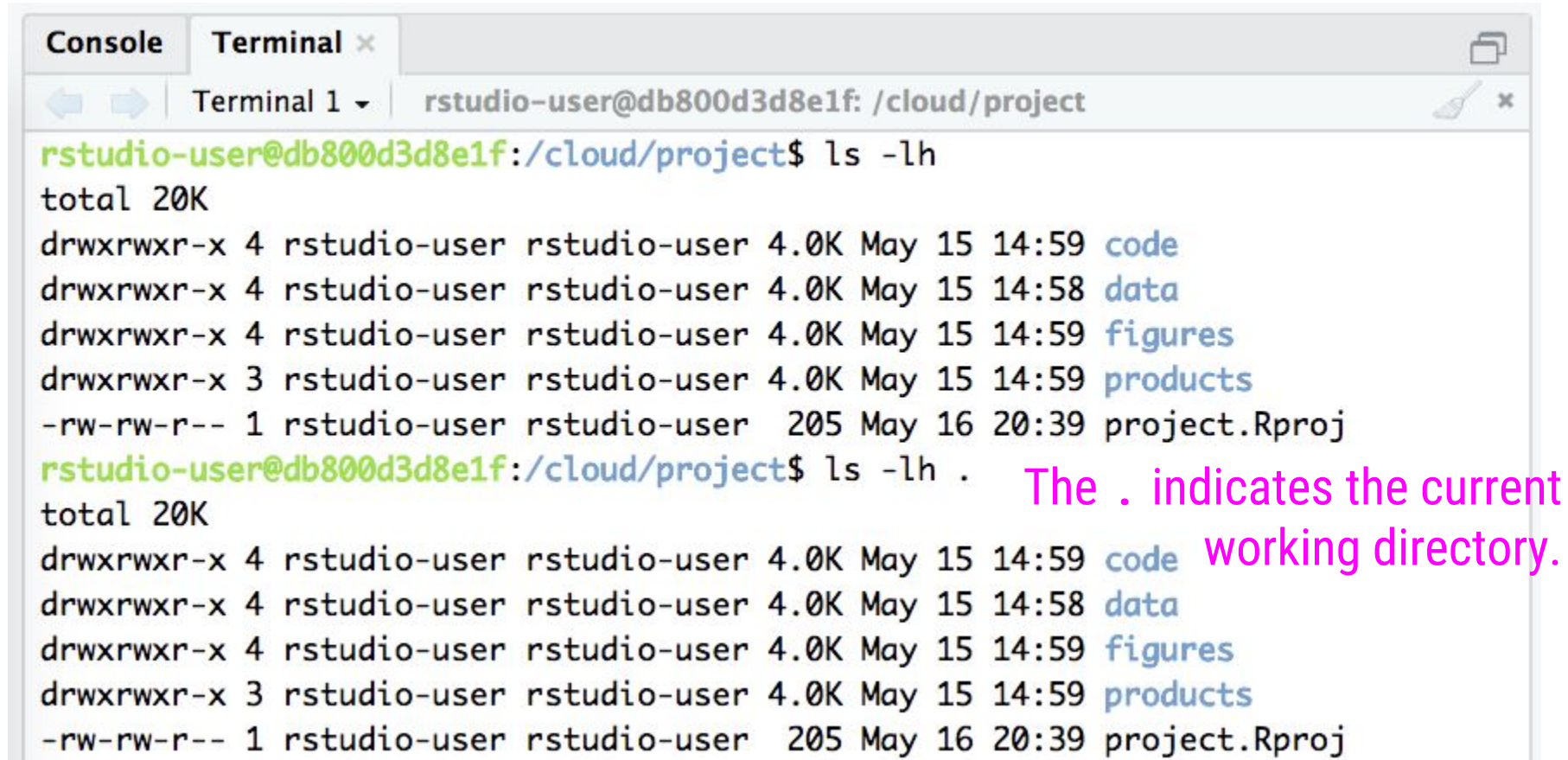
The screenshot shows a terminal window with the title bar 'Console Terminal x'. The terminal prompt is 'rstudio-user@5f012990908c: /cloud/project'. The user has entered the command 'ls', and the output is displayed. The output shows the contents of the directory: 'code', 'data', 'figures', 'products', and 'project.Rproj'. The user then enters 'ls -lh', and the output shows the files with their permissions, sizes, and modification dates. The files are: 'code' (4.0K, May 15 14:59), 'data' (4.0K, May 15 14:58), 'figures' (4.0K, May 15 14:59), 'products' (4.0K, May 15 14:59), and 'project.Rproj' (205, May 16 01:52). The user then enters 'ls -lh products/', and the output shows the contents of the 'products' directory: 'writing' (4.0K, May 15 14:59). The terminal window has a toolbar with a back arrow, a forward arrow, a search icon, and a close icon.

```
rstudio-user@5f012990908c:/cloud/project$ ls
code data figures products project.Rproj
rstudio-user@5f012990908c:/cloud/project$ ls -lh
total 20K
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 code
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:58 data
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 figures
drwxrwxr-x 3 rstudio-user rstudio-user 4.0K May 15 14:59 products
-rw-rw-r-- 1 rstudio-user rstudio-user 205 May 16 01:52 project.Rproj
rstudio-user@5f012990908c:/cloud/project$ ls -lh products/
total 4.0K
drwxrwxr-x 2 rstudio-user rstudio-user 4.0K May 15 14:59 writing
```

Size, date modified, name

List contents of a specified folder

# What is in this folder? `ls`

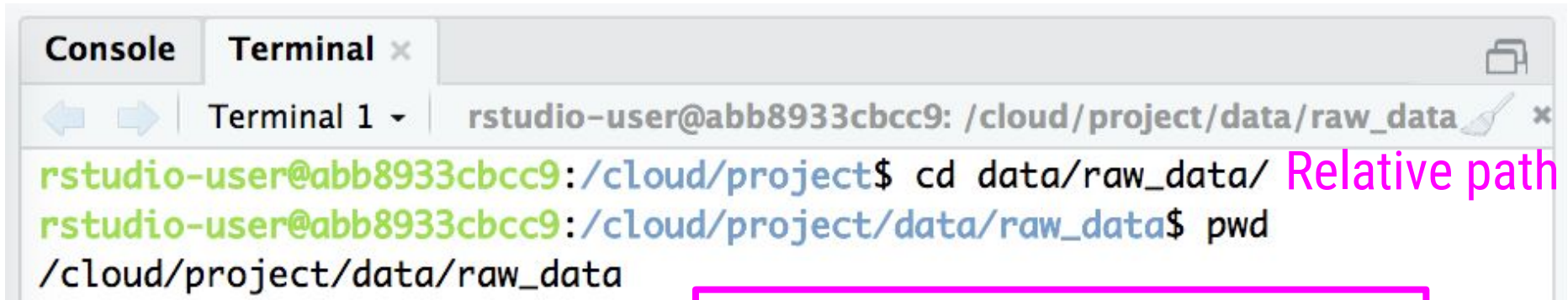


```
Console Terminal x
Terminal 1 ▾ rstudio-user@db800d3d8e1f: /cloud/project
rstudio-user@db800d3d8e1f:/cloud/project$ ls -lh
total 20K
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 code
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:58 data
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 figures
drwxrwxr-x 3 rstudio-user rstudio-user 4.0K May 15 14:59 products
-rw-rw-r-- 1 rstudio-user rstudio-user 205 May 16 20:39 project.Rproj
rstudio-user@db800d3d8e1f:/cloud/project$ ls -lh .
total 20K
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 code
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:58 data
drwxrwxr-x 4 rstudio-user rstudio-user 4.0K May 15 14:59 figures
drwxrwxr-x 3 rstudio-user rstudio-user 4.0K May 15 14:59 products
-rw-rw-r-- 1 rstudio-user rstudio-user 205 May 16 20:39 project.Rproj
```

The `.` indicates the current working directory.



# Change directory `cd`



The screenshot shows a terminal window with two tabs: 'Console' and 'Terminal x'. The 'Terminal' tab is active, showing 'Terminal 1' with a dropdown arrow. The terminal title bar indicates the user is 'rstudio-user@abb8933cbcc9' and the current directory is '/cloud/project/data/raw\_data'. The terminal content shows the following commands and output:

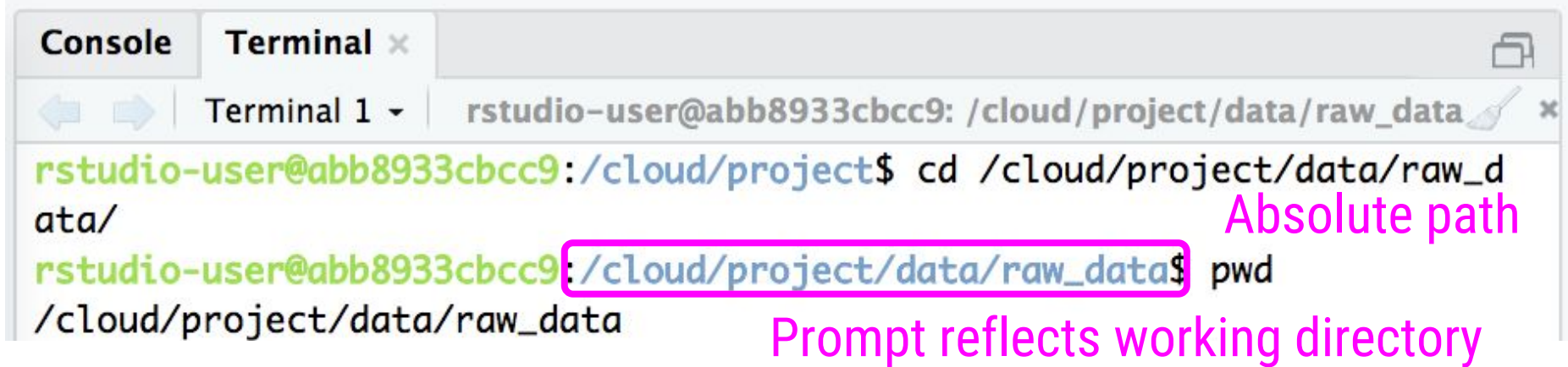
```
rstudio-user@abb8933cbcc9:/cloud/project$ cd data/raw_data/
rstudio-user@abb8933cbcc9:/cloud/project/data/raw_data$ pwd
/cloud/project/data/raw_data
```

A pink annotation 'Relative path' points to the 'data/raw\_data/' part of the first command.

**Pro tip!** Tab completion saves typing time!



# Change directory `cd`



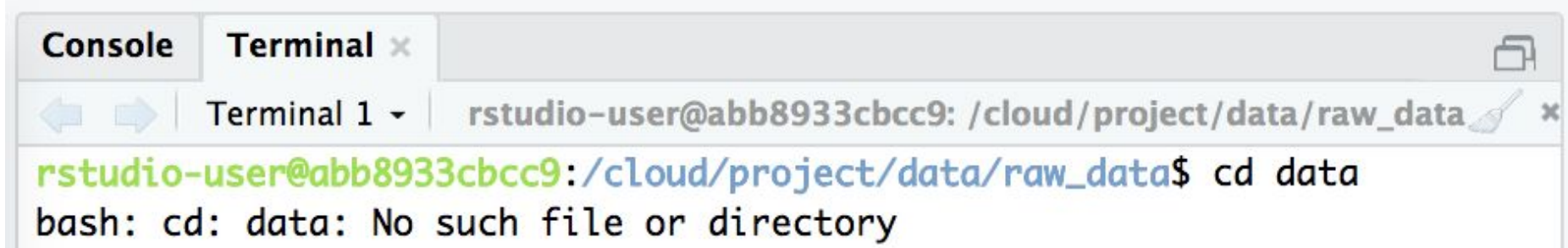
The screenshot shows an RStudio terminal window with two tabs: 'Console' and 'Terminal'. The 'Terminal' tab is active, showing a session with the user 'rstudio-user' on host 'abb8933cbcc9'. The initial prompt is `/cloud/project`. The user enters `cd /cloud/project/data/raw_data/`, and the prompt changes to `/cloud/project/data/raw_data`. A pink box highlights the new prompt, and a pink arrow points to it with the text 'Prompt reflects working directory'. The user then enters `pwd`, and the output is `/cloud/project/data/raw_data`. A pink arrow points to the output with the text 'Absolute path'.

```
rstudio-user@abb8933cbcc9: /cloud/project$ cd /cloud/project/data/raw_data/
rstudio-user@abb8933cbcc9: /cloud/project/data/raw_data$ pwd
/cloud/project/data/raw_data
```

Absolute path

Prompt reflects working directory

# Change directory `cd`



The screenshot shows a terminal window with the following content:

```
rstudio-user@abb8933cbcc9: /cloud/project/data/raw_data$ cd data
bash: cd: data: No such file or directory
```

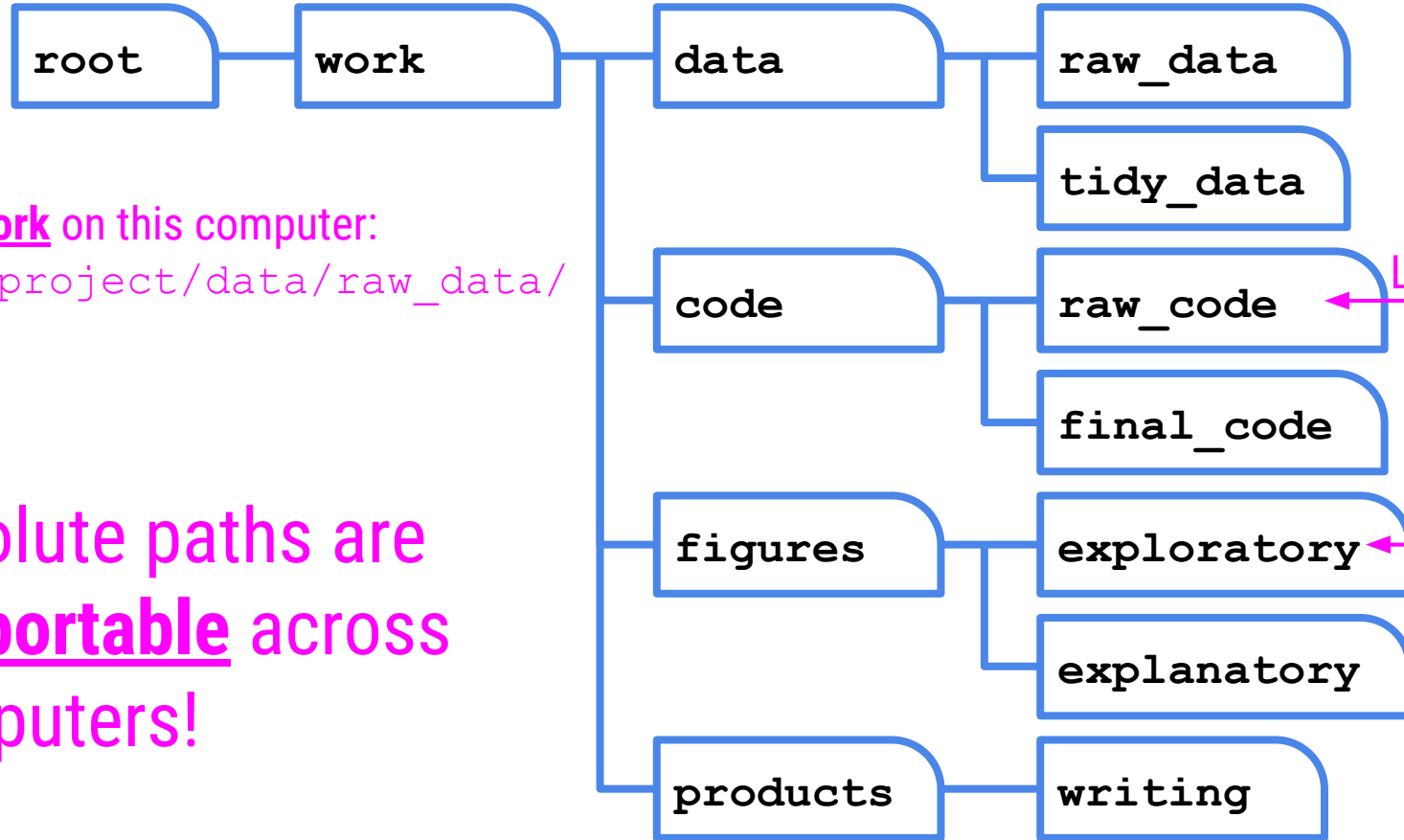
The terminal window has a title bar with 'Console' and 'Terminal x' tabs. The 'Terminal' tab is active, showing 'Terminal 1' and the current directory path. The command 'cd data' was entered, but it resulted in an error because the directory 'data' does not exist in the current path.

Error when you try to change to a nonexistent directory





Different folders than cloud  
and project



Will **not work** on this computer:

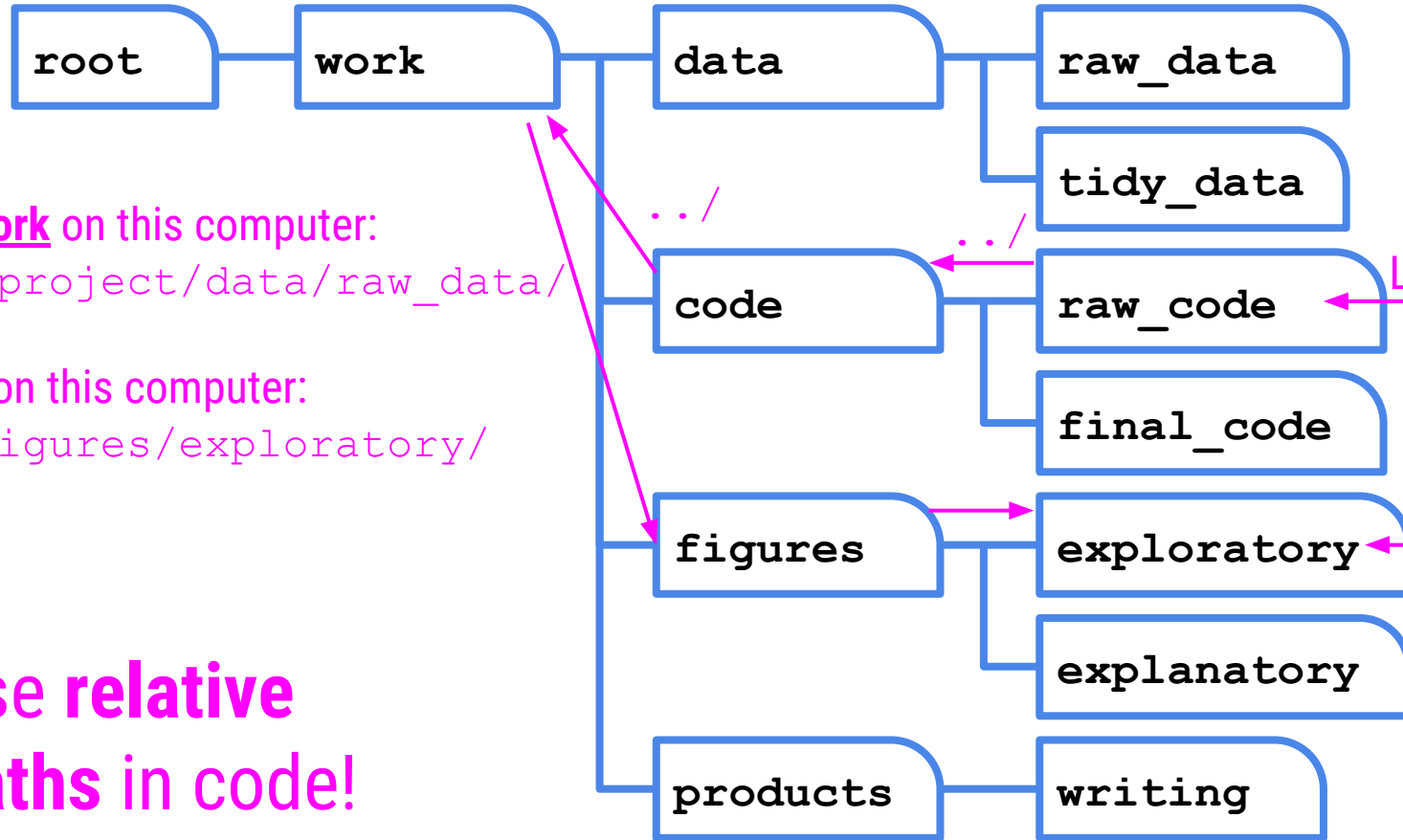
/cloud/project/data/raw\_data/

Location of  
code file

Absolute paths are  
**not portable** across  
computers!

Desired  
location

Different folders than cloud  
and project



Will **not work** on this computer:

`/cloud/project/data/raw_data/`

Will **work** on this computer:

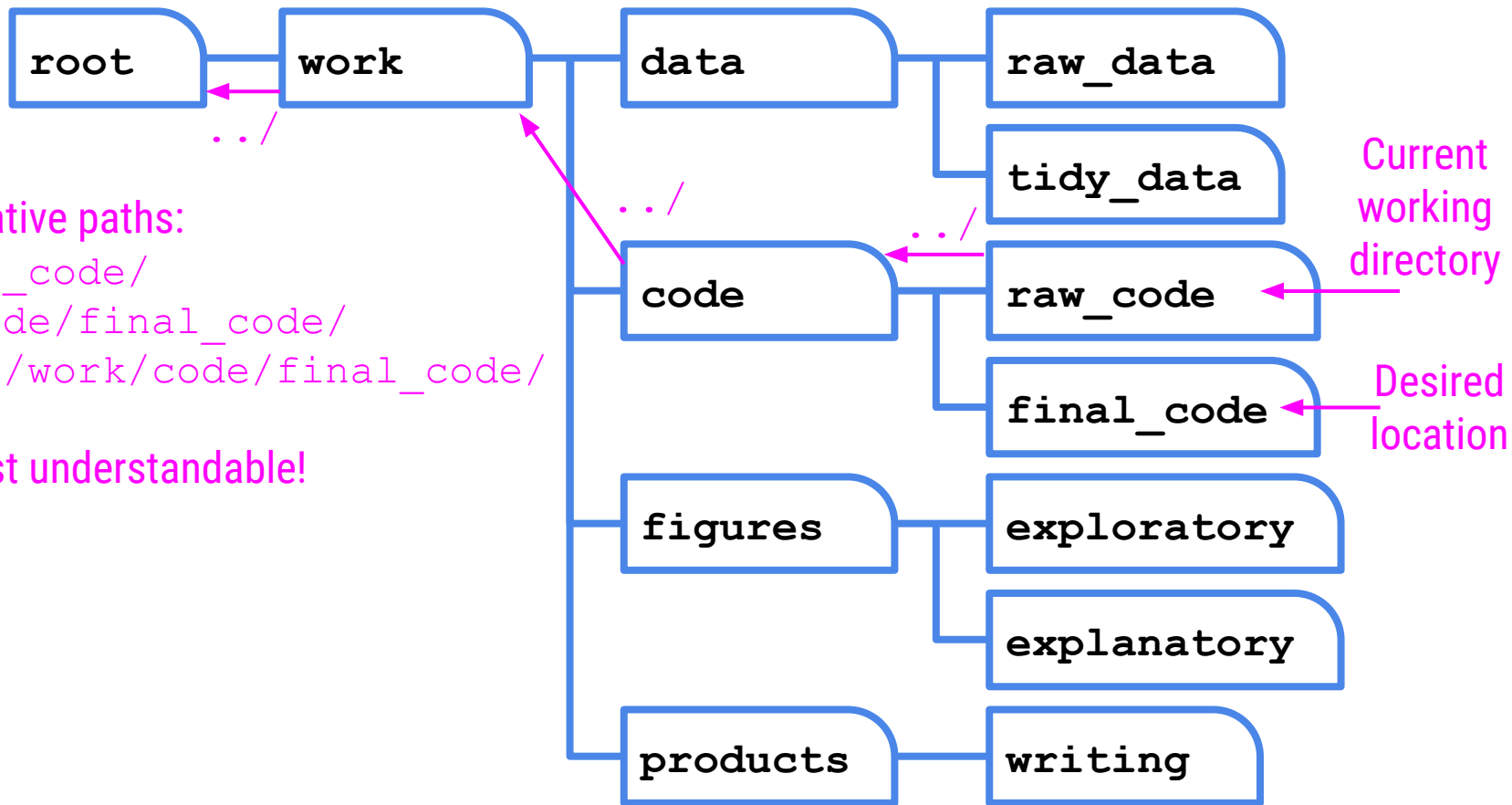
`../../../../figures/exploratory/`

Location of  
code file

Desired  
location

Use **relative**  
**paths** in code!



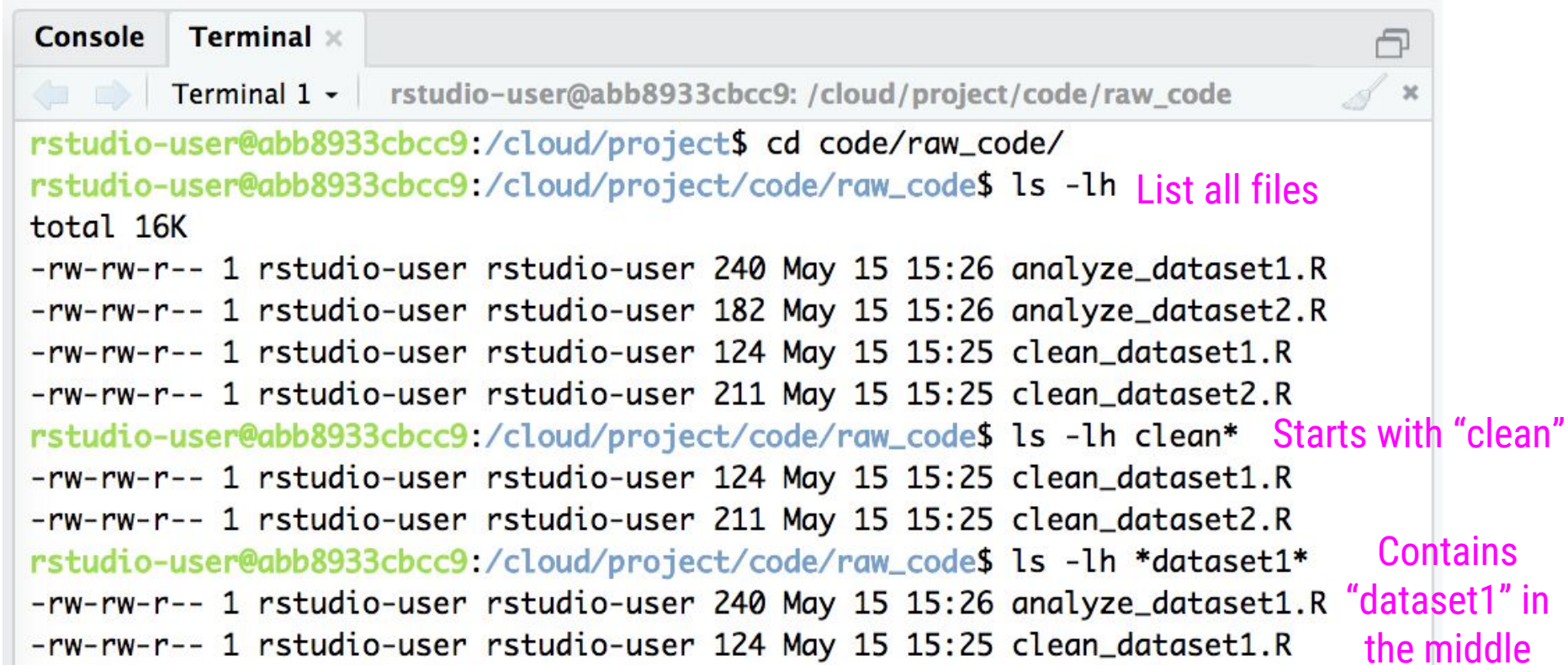


## Pro tip!

Use the up and down arrow keys to cycle through previously typed commands quickly!



# The wildcard operator \*



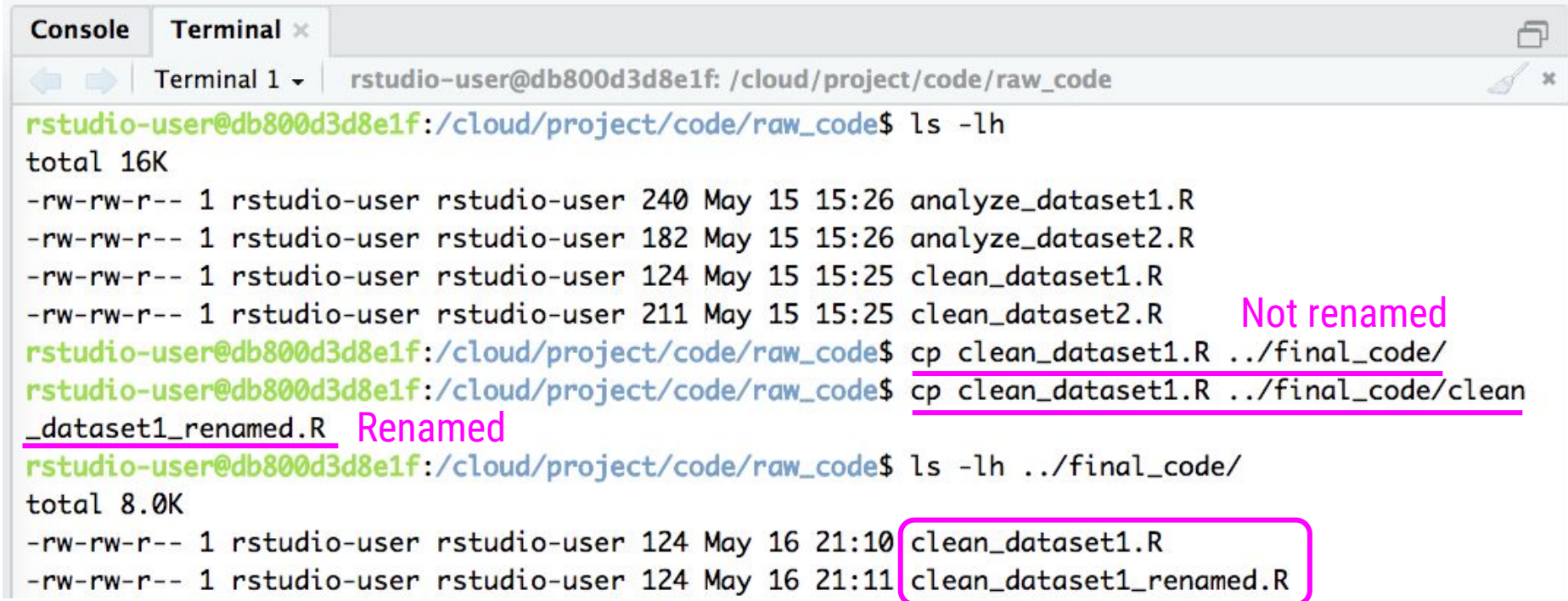
The screenshot shows an RStudio terminal window with the following content:

```
rstudio-user@abb8933cbcc9: /cloud/project/code/raw_code$ cd code/raw_code/
rstudio-user@abb8933cbcc9: /cloud/project/code/raw_code$ ls -lh List all files
total 16K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 15 15:26 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 clean_dataset2.R
rstudio-user@abb8933cbcc9: /cloud/project/code/raw_code$ ls -lh clean* Starts with "clean"
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 clean_dataset2.R
rstudio-user@abb8933cbcc9: /cloud/project/code/raw_code$ ls -lh *dataset1* Contains "dataset1" in the middle
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
```

The terminal window has a title bar with "Console" and "Terminal x" tabs. The terminal title is "Terminal 1" and the current directory is "/cloud/project/code/raw\_code". The user is "rstudio-user" and the host is "abb8933cbcc9".

# Copying files `cp`

`cp path_to_original_file path_to_new_file`



The screenshot shows an RStudio terminal window with the following content:

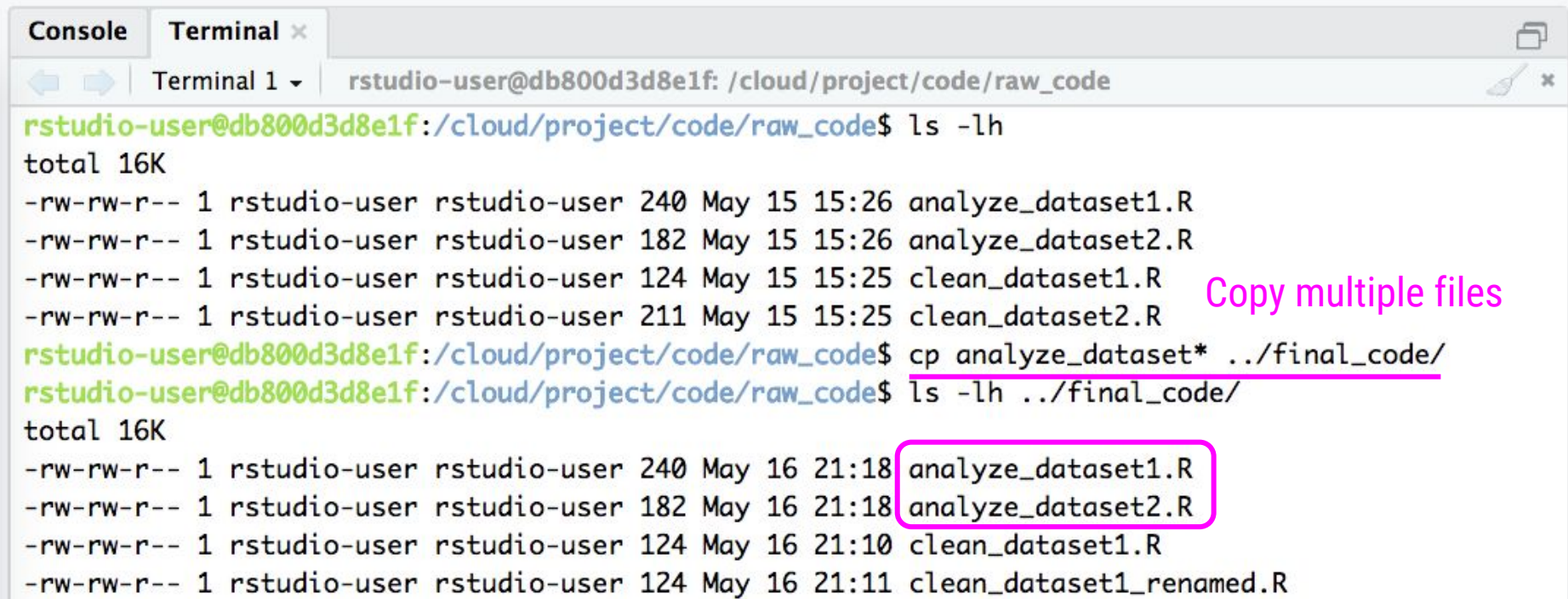
```
Console | Terminal x
Terminal 1 ▾ | rstudio-user@db800d3d8e1f: /cloud/project/code/raw_code

rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ ls -lh
total 16K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 15 15:26 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 clean_dataset2.R
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ cp clean_dataset1.R ../final_code/
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ cp clean_dataset1.R ../final_code/clean
_dataset1_renamed.R
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ ls -lh ../final_code/
total 8.0K
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 16 21:10 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 16 21:11 clean_dataset1_renamed.R
```

Annotations in the image:

- The text **Not renamed** is written in pink next to `clean_dataset2.R` in the first `ls` command's output.
- The text **Renamed** is written in pink next to `clean_dataset1_renamed.R` in the second `cp` command's output.
- A pink rounded rectangle highlights the last two lines of the second `ls` command's output: `clean_dataset1.R` and `clean_dataset1_renamed.R`.

# Copying files `cp`



The screenshot shows a terminal window with the following content:

```
Console | Terminal x
Terminal 1 ▾ | rstudio-user@db800d3d8e1f: /cloud/project/code/raw_code
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ ls -lh
total 16K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 15 15:26 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 clean_dataset2.R
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ cp analyze_dataset* ../final_code/
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ ls -lh ../final_code/
total 16K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 16 21:18 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 16 21:18 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 16 21:10 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 16 21:11 clean_dataset1_renamed.R
```

The command `cp analyze_dataset* ../final_code/` is highlighted with a pink underline. The output files `analyze_dataset1.R` and `analyze_dataset2.R` in the second `ls` command are circled in pink.

Copy multiple files

Could also have used:

`cp analyze_dataset1.R analyze_dataset2.R ../final_code/`





# Copying a folder `cp`

```
Console | Terminal x
Terminal 1 ▾ | rstudio-user@db800d3d8e1f: /cloud/project/code

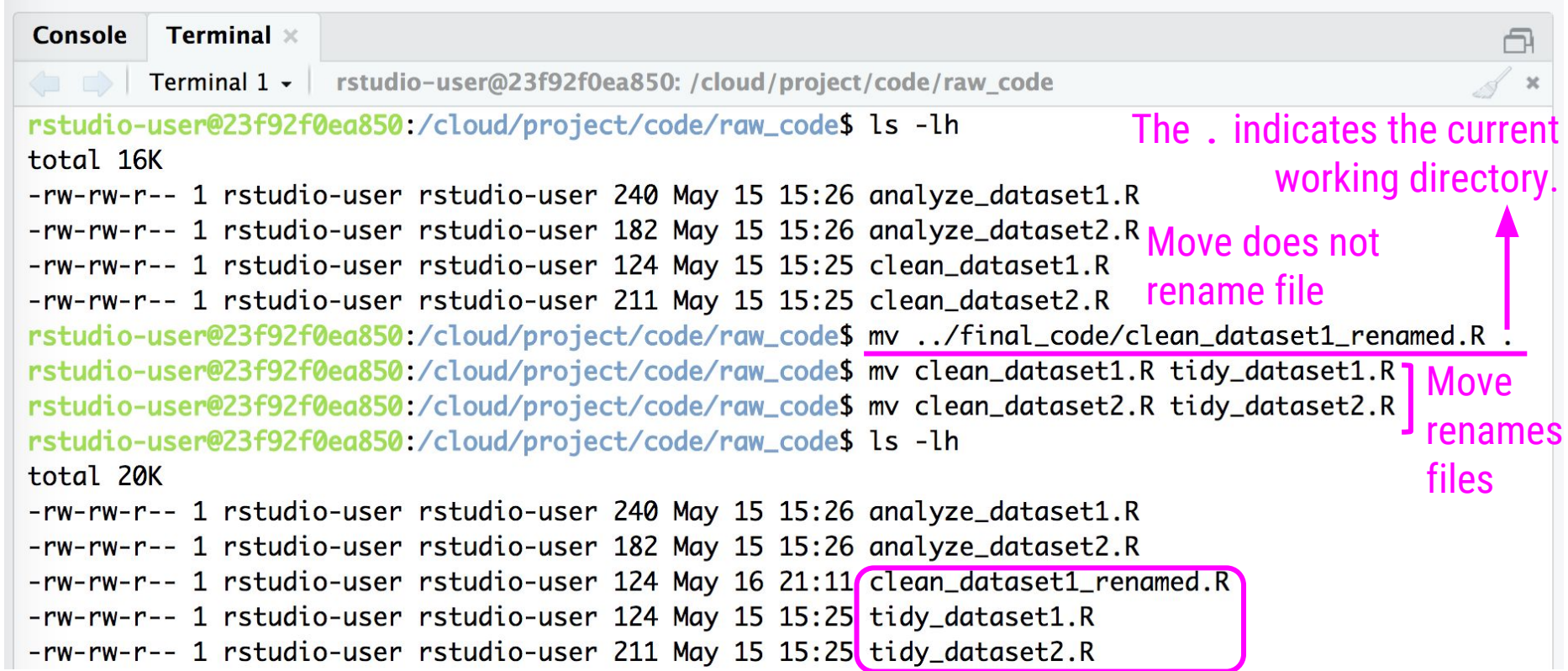
rstudio-user@db800d3d8e1f:/cloud/project/code/raw_code$ cd ..
rstudio-user@db800d3d8e1f:/cloud/project/code$ ls
final_code  raw_code
rstudio-user@db800d3d8e1f:/cloud/project/code$ cp final_code/ publication_code Doesn't work...
cp: omitting directory 'final_code/'
rstudio-user@db800d3d8e1f:/cloud/project/code$ ls ...the same two folders are here
final_code  raw_code
rstudio-user@db800d3d8e1f:/cloud/project/code$ cp -r final_code/ publication_code Works with the recursive option -r
rstudio-user@db800d3d8e1f:/cloud/project/code$ ls
final_code  publication_code  raw_code
rstudio-user@db800d3d8e1f:/cloud/project/code$ ls final_code/
analyze_dataset1.R  analyze_dataset2.R  clean_dataset1.R  clean_dataset1_renamed.R
rstudio-user@db800d3d8e1f:/cloud/project/code$ ls publication_code/
analyze_dataset1.R  analyze_dataset2.R  clean_dataset1.R  clean_dataset1_renamed.R Same files in both folders
```





# Moving files mv

`mv path_to_original_file path_to_new_file`



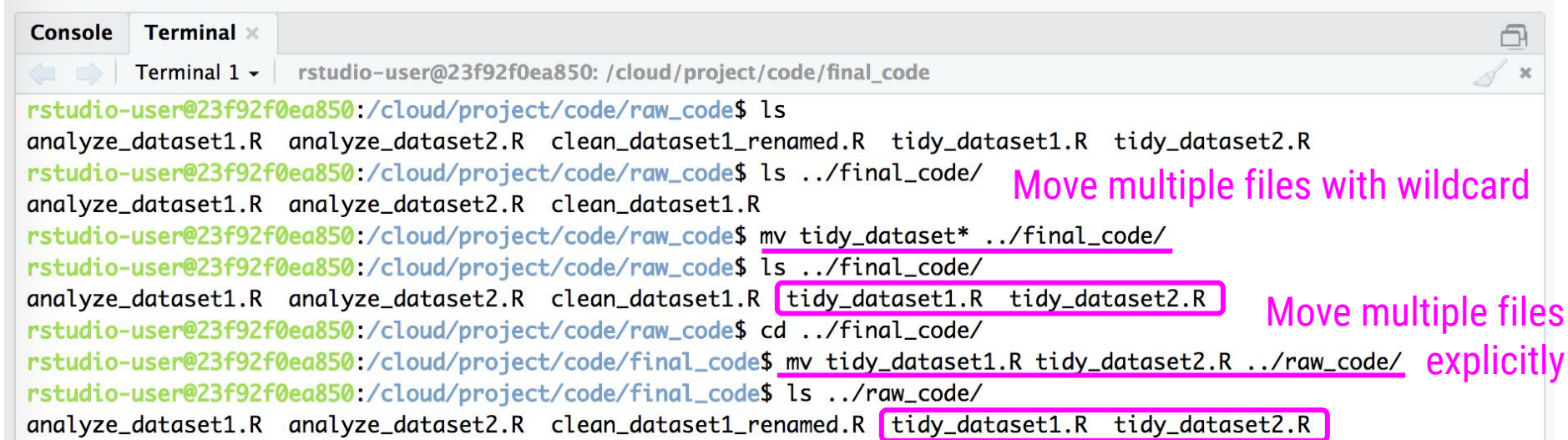
```
rstudio-user@23f92f0ea850: /cloud/project/code/raw_code
ls -lh
total 16K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 15 15:26 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 clean_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 clean_dataset2.R
rstudio-user@23f92f0ea850: /cloud/project/code/raw_code$ mv ../final_code/clean_dataset1_renamed.R .
rstudio-user@23f92f0ea850: /cloud/project/code/raw_code$ mv clean_dataset1.R tidy_dataset1.R
rstudio-user@23f92f0ea850: /cloud/project/code/raw_code$ mv clean_dataset2.R tidy_dataset2.R
rstudio-user@23f92f0ea850: /cloud/project/code/raw_code$ ls -lh
total 20K
-rw-rw-r-- 1 rstudio-user rstudio-user 240 May 15 15:26 analyze_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 182 May 15 15:26 analyze_dataset2.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 16 21:11 clean_dataset1_renamed.R
-rw-rw-r-- 1 rstudio-user rstudio-user 124 May 15 15:25 tidy_dataset1.R
-rw-rw-r-- 1 rstudio-user rstudio-user 211 May 15 15:25 tidy_dataset2.R
```

The . indicates the current working directory.

Move does not rename file

Move renames files

# Moving files `mv`



The screenshot shows an RStudio terminal window with the following content:

```
Console Terminal x
Terminal 1 ▾ rstudio-user@23f92f0ea850: /cloud/project/code/final_code

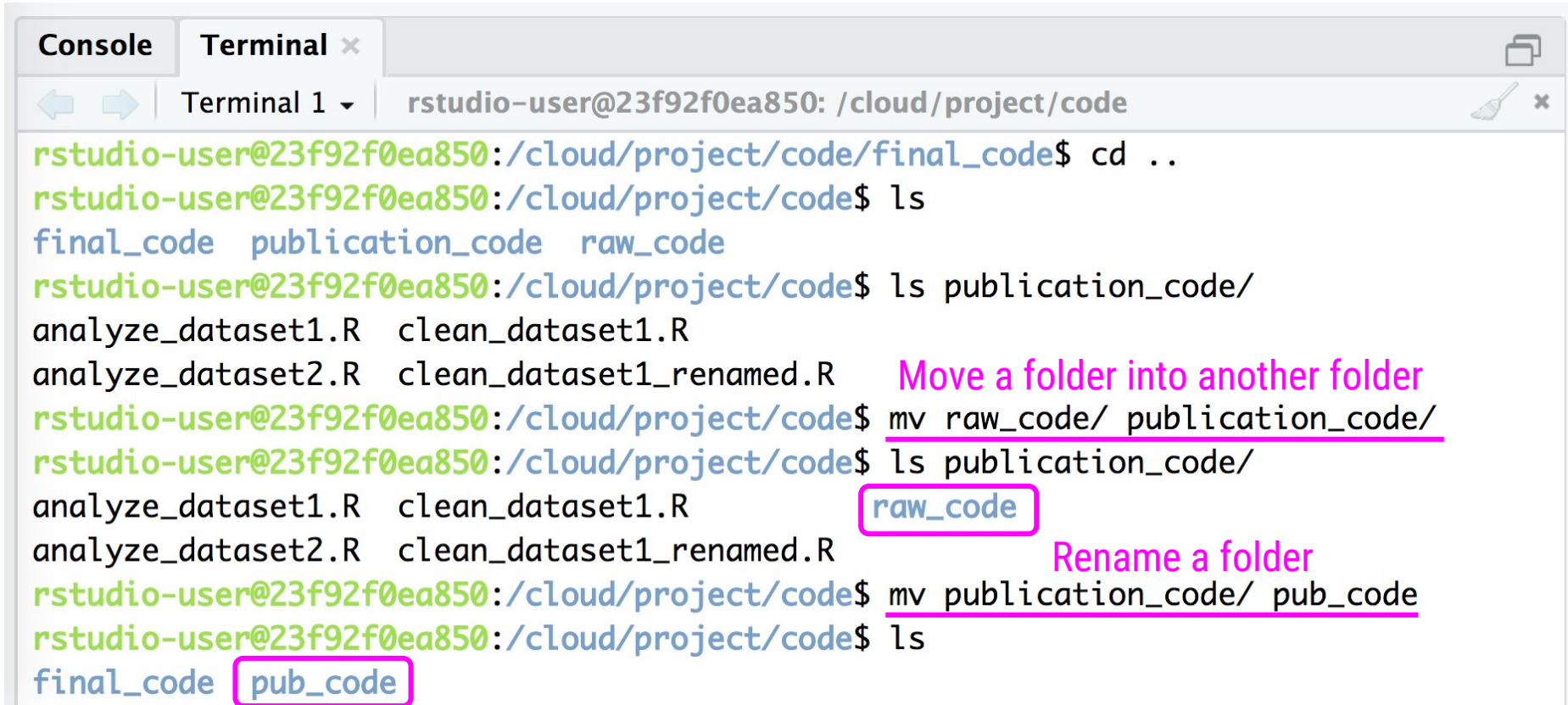
rstudio-user@23f92f0ea850:/cloud/project/code/raw_code$ ls
analyze_dataset1.R analyze_dataset2.R clean_dataset1_renamed.R tidy_dataset1.R tidy_dataset2.R
rstudio-user@23f92f0ea850:/cloud/project/code/raw_code$ ls ../final_code/
analyze_dataset1.R analyze_dataset2.R clean_dataset1.R
rstudio-user@23f92f0ea850:/cloud/project/code/raw_code$ mv tidy_dataset* ../final_code/
rstudio-user@23f92f0ea850:/cloud/project/code/raw_code$ ls ../final_code/
analyze_dataset1.R analyze_dataset2.R clean_dataset1.R tidy_dataset1.R tidy_dataset2.R
rstudio-user@23f92f0ea850:/cloud/project/code/raw_code$ cd ../final_code/
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ mv tidy_dataset1.R tidy_dataset2.R ../raw_code/
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ ls ../raw_code/
analyze_dataset1.R analyze_dataset2.R clean_dataset1_renamed.R tidy_dataset1.R tidy_dataset2.R
```

Annotations in the image:

- Move multiple files with wildcard**: A pink annotation pointing to the command `mv tidy_dataset* ../final_code/`.
- Move multiple files explicitly**: A pink annotation pointing to the command `mv tidy_dataset1.R tidy_dataset2.R ../raw_code/`.

File names `tidy_dataset1.R` and `tidy_dataset2.R` are highlighted with pink boxes in the terminal output.

# Moving a folder mv



The screenshot shows an RStudio terminal window with the following content:

```
Console | Terminal x
Terminal 1 ▾ rstudio-user@23f92f0ea850: /cloud/project/code

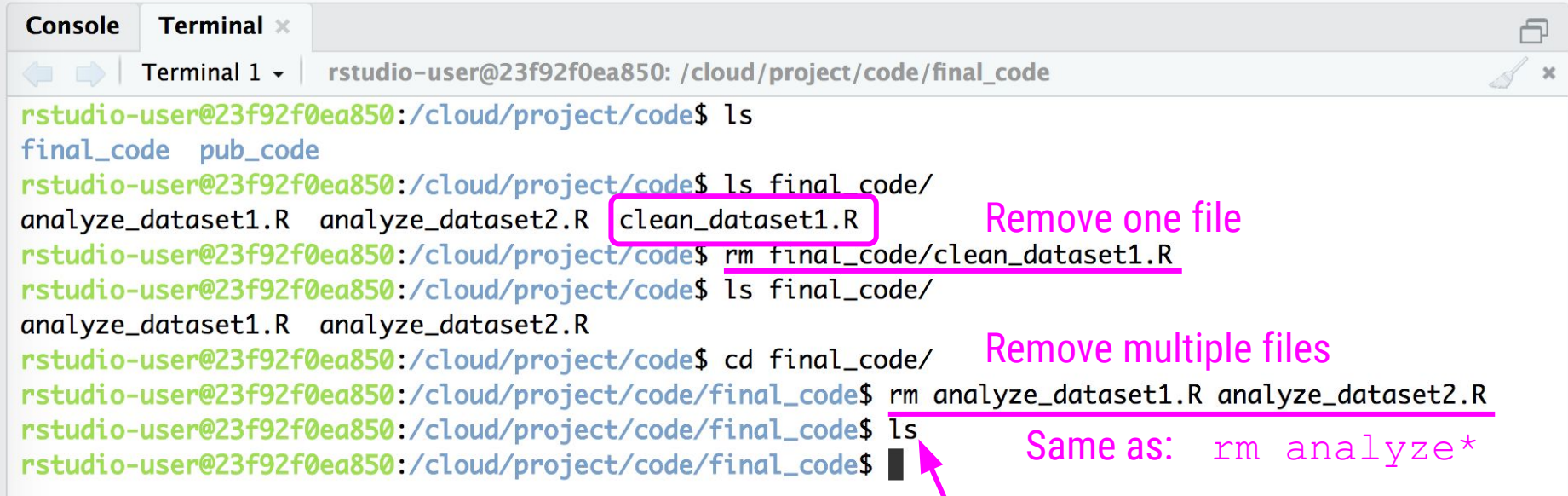
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ cd ..
rstudio-user@23f92f0ea850:/cloud/project/code$ ls
final_code  publication_code  raw_code
rstudio-user@23f92f0ea850:/cloud/project/code$ ls publication_code/
analyze_dataset1.R  clean_dataset1.R
analyze_dataset2.R  clean_dataset1_renamed.R
rstudio-user@23f92f0ea850:/cloud/project/code$ mv raw_code/ publication_code/
rstudio-user@23f92f0ea850:/cloud/project/code$ ls publication_code/
analyze_dataset1.R  clean_dataset1.R
analyze_dataset2.R  clean_dataset1_renamed.R
rstudio-user@23f92f0ea850:/cloud/project/code$ mv publication_code/ pub_code
rstudio-user@23f92f0ea850:/cloud/project/code$ ls
final_code  pub_code
```

Annotations in the image:

- Move a folder into another folder**: A pink text annotation pointing to the command `mv raw_code/ publication_code/`.
- raw\_code**: A pink box highlighting the text `raw_code` in the command `mv raw_code/ publication_code/`.
- Rename a folder**: A pink text annotation pointing to the command `mv publication_code/ pub_code`.
- pub\_code**: A pink box highlighting the text `pub_code` in the final `ls` output.

# Deleting files `rm`

`rm path_to_file_to_delete`



The screenshot shows an RStudio terminal window with the following content:

```
Console Terminal x
Terminal 1 ▾ rstudio-user@23f92f0ea850: /cloud/project/code/final_code

rstudio-user@23f92f0ea850:/cloud/project/code$ ls
final_code  pub_code
rstudio-user@23f92f0ea850:/cloud/project/code$ ls final_code/
analyze_dataset1.R  analyze_dataset2.R  clean_dataset1.R
rstudio-user@23f92f0ea850:/cloud/project/code$ rm final_code/clean_dataset1.R
rstudio-user@23f92f0ea850:/cloud/project/code$ ls final_code/
analyze_dataset1.R  analyze_dataset2.R
rstudio-user@23f92f0ea850:/cloud/project/code$ cd final_code/
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ rm analyze_dataset1.R analyze_dataset2.R
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ ls
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ █
```

Annotations in the image:

- A pink box highlights `clean_dataset1.R` in the `ls final_code/` output, with a pink arrow pointing to it from the text "Remove one file".
- The command `rm final_code/clean_dataset1.R` is underlined in pink.
- The command `rm analyze_dataset1.R analyze_dataset2.R` is underlined in pink, with a pink arrow pointing to it from the text "Remove multiple files".
- The command `rm analyze_dataset1.R analyze_dataset2.R` is followed by the text "Same as: `rm analyze*`" in pink.
- The final `ls` command is followed by a pink arrow pointing to the prompt from the text "Folder is empty".



# Deleting a folder `rm`



```
Console  Terminal x
Terminal 1 ▾  rstudio-user@23f92f0ea850: /cloud/project/code
rstudio-user@23f92f0ea850:/cloud/project/code/final_code$ cd ..
rstudio-user@23f92f0ea850:/cloud/project/code$ ls
final_code  pub_code
rstudio-user@23f92f0ea850:/cloud/project/code$ rm final_code/
rm: cannot remove 'final_code/': Is a directory
rstudio-user@23f92f0ea850:/cloud/project/code$ rm -r final_code/
rstudio-user@23f92f0ea850:/cloud/project/code$ ls
pub_code
```

**Pro tip:** Be careful with `rm` and wildcards - especially `rm *`.  
Check wildcard patterns with `ls` commands.



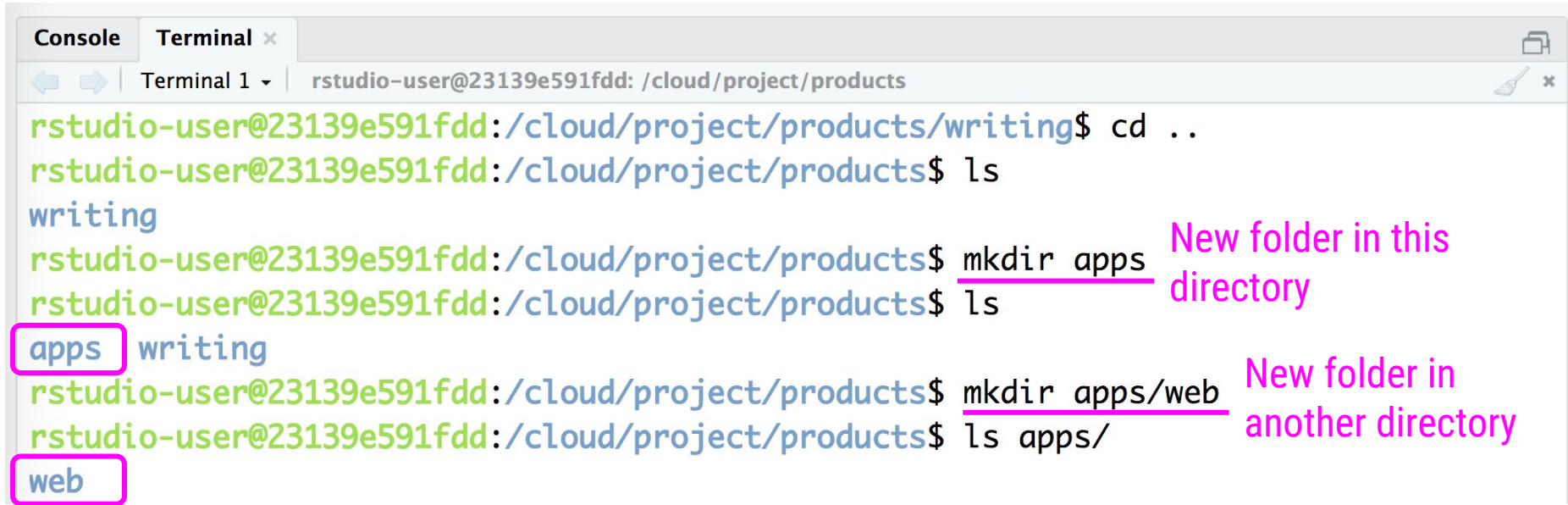
# Create an empty file touch

```
Console Terminal x
Terminal 1 ▾ rstudio-user@23139e591fdd: /cloud/project/products/writing
rstudio-user@23139e591fdd:/cloud/project/code$ cd ../products/writing/
rstudio-user@23139e591fdd:/cloud/project/products/writing$ ls Empty folder
rstudio-user@23139e591fdd:/cloud/project/products/writing$ touch references.txt
rstudio-user@23139e591fdd:/cloud/project/products/writing$ ls -lh
total 0
-rw-rw-r-- 1 rstudio-user rstudio-user 0 May 18 00:39 references.txt
```

↑  
File is empty - size is  
zero bytes



# Create a new directory `mkdir`



A terminal window titled "Terminal x" with a tab "Terminal 1" showing a series of commands and their outputs. The prompt is `rstudio-user@23139e591fdd: /cloud/project/products`. The commands and outputs are as follows:

```
rstudio-user@23139e591fdd:/cloud/project/products/writing$ cd ..
rstudio-user@23139e591fdd:/cloud/project/products$ ls
writing
rstudio-user@23139e591fdd:/cloud/project/products$ mkdir apps
rstudio-user@23139e591fdd:/cloud/project/products$ ls
apps  writing
rstudio-user@23139e591fdd:/cloud/project/products$ mkdir apps/web
rstudio-user@23139e591fdd:/cloud/project/products$ ls apps/
web
```

Annotations in the image:

- A pink box highlights the word `apps` in the output of the first `ls` command.
- A pink box highlights the word `web` in the output of the second `ls` command.
- A pink underline is under the command `mkdir apps`.
- A pink underline is under the command `mkdir apps/web`.
- Pink text annotations: "New folder in this directory" is next to the first `mkdir` command, and "New folder in another directory" is next to the second `mkdir` command.



# Summary

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- Terminal is an interface for efficiently managing files and for using Git (next course).
- `pwd`: prints current working directory
- `cd`: changes directory
- `ls`: lists files and folders
  - When used with the wildcard operator `*`, lists patterns of files
  - Useful for “testing” wildcard patterns
- `cp`: copies files and folders (possibly renaming)
- `mv`: moves files and folders (possibly renaming)
- `rm`: deletes files and folders
- `touch`: creates empty files
- `mkdir`: creates new folders



# Additional resources

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- The ls command: <https://shapedshed.com/unix-ls/>
- The cp command: <https://shapedshed.com/unix-cp/>
- The mv command: <https://shapedshed.com/unix-mv/>
- The rm command: <https://shapedshed.com/unix-rm/>